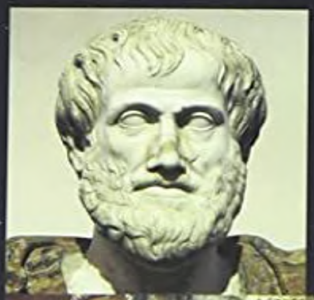
EDWARD FESER

FIVE PROOFS OF THE EXISTENCE *of* GOD



ARISTOTLE
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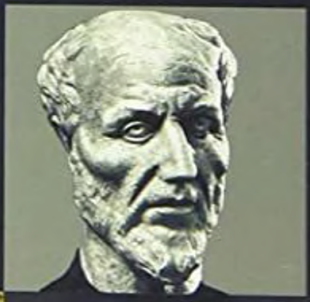

IGNATIUS

FIVE PROOFS OF THE EXISTENCE OF GOD

EDWARD FESER

Five Proofs of the Existence of God

IGNATIUS PRESS SAN FRANCISCO

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First row (left): *Aristotle*, bust, Roman copy after a Greek bronze,
original by Lysippos, 330 B.C.
National Museum of Rome, Ludovisi Collection
First row (right): *Plotinus*, marble bust, Ostia Antica Museo, Italy
Second row (left): *St. Augustine* by Sandro Botticelli (1444–1510),
in the church of Ognissanti, Florence, Italy
Second row (middle): *St. Thomas Aquinas* by Carlo Crivelli (ca.1430–1495),
National Gallery, London, England
Second row (right): *Gottfried Wilhelm Leibniz* by Christoph Bernhard Francke
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My friend Father Thomas Joseph White has been at the forefront of the revival of interest in natural theology among Catholic theologians, as evidenced by his fine book *Wisdom in the Face of Modernity: A Study in Thomistic Natural Theology*.[1] I have profited much from his work and from our conversations over the last few years. It is with gratitude and admiration that I dedicate this book to him.

[1] Thomas Joseph White, O.P., *Wisdom in the Face of Modernity: A Study in Thomistic Natural Theology* (Ave Maria, Fla.: Sapientia Press, 2009).

INTRODUCTION

This is not a book about Saint Thomas Aquinas' Five Ways.[1] Some readers of my earlier books might have supposed otherwise, given that I have defended Aquinas' arguments elsewhere and that the title of this book is *Five Proofs of the Existence of God*. But though there is certainly some overlap with what Aquinas says and with what I have said in other places, this book stakes out somewhat different ground. It is not *new* ground, exactly, insofar as none of the proofs I will discuss is original with me. But it is different ground insofar as several of these proofs are arguments I have not previously defended at any length. It is also different in that most of these proofs have not received much attention in contemporary philosophy. This is remarkable, given that they have been very prominent historically, and given that they happen to be the most powerful arguments for God's existence on offer (or so I think). My longtime readers will not be surprised when I say that in my view this tells you nothing about the proofs themselves and everything about the state of contemporary academic philosophy, including philosophy of religion.

Though the arguments are not new in themselves, then, they will be new to most readers, as will much of what I have to say in defense of them. What is distinctive about this book will perhaps be most easily explained by saying something about its origins. In my earlier books *The Last Superstition* and *Aquinas*, and elsewhere, I approached questions of natural theology—that is to say, questions about what might be known via unaided human reason, apart from divine revelation, concerning the existence and nature of God and of

[1] Aquinas's Five Ways of demonstrating the existence of God appear in *Summa Theologiae* I, q. 2, a. 3. The First Way is the argument from motion to the existence of a first Unmoved Mover. The Second Way is the argument from causality to the existence of a first uncaused cause. The Third Way is the argument from the contingency of the world to the existence of an absolutely necessary being. The Fourth Way is the argument from degrees of perfection to the existence of a most perfect being. The Fifth Way is the argument from finality to the existence of a supreme intelligence.

his relationship to the world—by way of exposition and defense of what Aquinas had to say on the subject.[2] Since Aquinas is, in my estimation, the greatest of natural theologians, that approach has its advantages. But it has its limitations too. For one thing, it requires that the discussion be largely exegetical, a matter of explaining what Aquinas meant to say, or at most the direction in which his arguments could be taken (and have been taken by later Thomists), given what is actually to be found in his texts.[3] That in turn requires setting out the background philosophical principles concerning the nature of change, causality, contingency, and so forth, that are deployed in his arguments; disentangling the essential ideas from the contingent and erroneous scientific assumptions in terms of which he sometimes expresses them; and so on. It is for that reason that, in both of the books mentioned, the reader has to work through seventy pages of sometimes dense general metaphysics before questions of natural theology are addressed. For another thing, the approach requires confining oneself to the arguments that Aquinas himself happened to think are the most siguificant ones.

In the years since those books appeared, though, it has occurred to me that there is a place, indeed a need, for a book that approaches things differently. In particular, there is a need for an exposition and defense of certain important arguments for God's existence that Aquinas himself does not discuss and which have also received insufficient attention in recent work in natural theology. And there is a need for an exposition and defense of all of the most important arguments for God's existence that is neither burdened with complex and often tedious issues of textual exegesis, nor preceded by any detailed metaphysical prolegomenon, but which simply gets straight to the heart of the arguments and introduces any needed background metaphysical principles along the way.

[2] Edward Feser, *The Last Superstition: A Refutation of the New Atheism* (South Bend, Ind.: St. Augustine's Press, 2008); and *Aquinas* (Oxford: Oneworld Publications, 2009). See also my articles "Existential Inertia and the Five Ways", *American Catholic Philosophical Quarterly* 85 (2011): 327–67, and "Between Aristotle and William Paley: Aquinas's Fifth Way", *Nova et Vetera* 11 (2013): 707–49. Both articles are reprinted (along with some other essays on matters relevant to Aquinas' natural theology) in my anthology *Neo-Scholastic Essays* (South Bend, Ind.: St. Augustine's Press, 2015), pp. 84–117 and pp. 47–92, respectively.

[3] "Thomism" is, of course, the standard label for the system of thought deriving from Thomas Aquinas, and thus a "Thomist" is an adherent of Thomism.

That is exactly what the present book does. Two of the proofs I defend here can be found in Aquinas, but three of them are not arguments that Aquinas discusses, at least not at length or in the form presented here. Nor is there any exegesis in this book, of Aquinas' texts or those of any other great thinker of the past. To be sure, and as the table of contents suggests, the arguments are all certainly *inspired* by several great thinkers of the past—in particular, by Aristotle, Plotinus, Augustine, Aquinas, and Leibniz. Indeed, I think that the proofs that I defend here capture what is essential to the arguments of these thinkers. But I am not presenting an interpretation of any text to be found in the writings of any of these thinkers, and I am not claiming that any of these thinkers said or would agree with *everything* I have to say. I defend an *Aristotelian* proof of God's existence, but not *Aristotle's* own proof, exactly; an *Augustinian* proof, but not an exegesis of anything *Augustine himself* actually wrote; and so forth. And I do not set out any more in the way of background metaphysics than is absolutely necessary before getting into the proofs. As far I am able, I introduce the relevant background metaphysical principles along the way, in the course of their application to natural theology.

Each of the first five chapters of the book is devoted to one of the proofs, and each of these chapters has the following structure. First, I present what I characterize as an informal statement of the argument, in two stages. In stage 1, I argue for the existence of something fitting a certain key description, such as (for example) the description "*an uncaused cause of the existence of things*". In stage 2, I argue that anything fitting the description in question must have certain key divine attributes, such as unity, eternity, immateriality, omnipotence, omniscience, and perfect goodness. These presentations are "informal" in the sense that the arguments are not initially set out in the explicit step-by-step format beloved of contemporary analytic philosophers, but rather in a more discursive and leisurely way. The reasons for this procedure are that I want to make it as easy as possible for readers unfamiliar with philosophy to get into and understand the arguments, and also that I need at various points temporarily to digress into more general issues of metaphysics so as to make clear exactly what is going on in the proofs and to forestall potential misunderstandings or irrelevant objections. To be sure, the discussion does at times get pretty technical. But the aim, in the earlier parts of each of these chapters, is

to introduce the reader to these technicalities as gently as is feasible. I want the book to be of interest not only to academic philosophers, but also, as far as possible, to laymen who are willing and able to get into philosophical abstractions if they are given the chance to ease into them gradually. Though we end up, in every chapter, in the deepest part of the deep end of the pool, I always try to start at the shallowest part of the shallow end that I can. (As the reader will discover, this is easier to do with some arguments than with others.)

The next section of each of these chapters contains what I characterize as a more formal statement of the argument. Here I *do* set out the arguments in an explicit step-by-step manner, with the aim of making the logical structure of the reasoning as evident as possible, and of recapitulating in a crisp and clear way the line of thought that the reader will have worked through in a more informal and leisurely way in the preceding discussion. None of these more formal sections is meant to stand alone. The reader may not understand them properly if he has not first read the more informal sections that precede them, which slowly and carefully explain the significance of each of the key concepts deployed in the more formal statement. But the more formal statement should make it clear in each case how everything said in the more informal preceding discussion ties together. Finally, each of these chapters concludes with a long section addressing various objections which have been or might be raised against the argument developed in the chapter. These sections are in some cases where the most technical material appears.

More specifically, the content of each of these first five chapters is as follows. Chapter 1 defends what I call the *Aristotelian proof* of the existence of God. It begins with the fact that there is real change in the world, analyzes change as the actualization of potential, and argues that no potential could be actualized at all unless there is something which can actualize without itself being actualized—a "purely actual actualizer" or Unmoved Mover, as Aristotle characterized God. Aristotle developed an argument of this sort in book 8 of his *Physics* and book 12 of his *Metaphysics*. Later Aristotelians such as Maimonides and Aquinas developed their own versions—the first of Aquinas' Five Ways being one statement of such an argument. These earlier writers expressed the argument in terms of archaic scientific notions such as the movement of the heavenly spheres, but as modern Aristotelians

have shown, the essential kernel of the argument in no way depends on this outdated husk. Chapter 1 aims to present the core idea of the argument as it might be developed by an Aristotle, Maimonides, or Aquinas were they writing today.

Chapter 2 defends what I call the *Neo-Platonic proof* of God's existence. It begins with the fact that the things of our experience are in various ways composite or made up of parts, and argues that the ultimate cause of such things can only be something which is absolutely simple or noncomposite, what Plotinus called "the One". The core idea of such an argument can be found in Plotinus' *Enneads*, and Aquinas gave expression to it as well. Indeed, the notion of divine simplicity is absolutely central to the classical theist conception of God, though strangely neglected by contemporary writers on natural theology, theists no less than atheists. Among the aims of this book is to help restore it to its proper place.

Chapter 3 defends an *Augustinian proof* of God's existence. It begins by arguing that universals (redness, humanness, triangularity, etc.), propositions, possibilities, and other abstract objects are in some sense real, but rejects Plato's conception of such objects as existing in a "third realm" distinct from any mind and distinct from the world of particular things. The only possible ultimate ground of these objects, the argument concludes, is a divine intellect—the mind of God. This idea too has its roots in Neo-Platonic thought, was central to Saint Augustine's understanding of God, and was defended by Leibniz as well. This book puts forward a more detailed and systematic statement of the argument than (as far as I know) has been attempted before.

Chapter 4 defends the *Thomistic proof* of God's existence. It begins by arguing that for any of the contingent things of our experience, there is a real distinction between its *essence* (*what* the thing is) and its *existence* (the fact *that* it is). It then argues that nothing in which there *is* such a real distinction could exist even for an instant unless caused to exist by something in which there *is no* such distinction, something the very essence of which *just is* existence, and which can therefore impart existence without having to receive it—an uncaused cause of the existence of things. Aquinas presented an argument of this sort in his little book *On Being and Essence*, and many Thomists have regarded it as *the* paradigmatically Thomistic argument for God's existence.

Chapter 5 defends a *rationalist proof* of the existence of God. The proof begins with a defense of the *principle of sufficient reason* (PSR), according to which everything is intelligible or has an explanation for why it exists and has the attributes it has. It then argues that there cannot be an explanation of the existence of any of the contingent things of our experience unless there is a necessary being, the existence of which is explained by its own nature. This sort of argument is famously associated with Leibniz, but the version of it I defend departs from Leibniz in several ways and interprets the key ideas in an Aristotelian-Thomistic way. (Hence, while it is definitely "rationalist" insofar as it is committed to a version of PSR and to the thesis that the world is intelligible through and through, it is *not* "rationalist" in other common senses of that term. For example, it is in no way committed to the doctrine of innate ideas or other aspects of the epistemology associated with continental rationalist philosophers like Descartes, Spinoza, and Leibniz. And its interpretation of PSR differs in key respects from theirs.)

Having presented these five proofs of God's existence, I move on in chapter 6 to examine God's nature and the nature of his relationship to the world of which he is the cause. These issues will already have been addressed to a considerable extent in the preceding chapters, but chapter 6 examines them in greater depth and more systematically. It begins with exposition and defense of three key background principles: the *principle of proportionate causality*, according to which whatever is in an effect must in some sense preexist in its total cause; the principle *agere sequitur esse*, according to which the way a thing behaves or operates follows from what it is; and the Thomist account of the *analogical* use of language. It then deploys these principles, first, in deriving the various divine attributes and addressing philosophical questions and objections that have been raised vis-à-vis these attributes. The chapter shows, to start with, that it is *one and the same God* at which each of the five proofs arrives, and that there can in principle only be one God. Having thereby established God's unity, the chapter goes on to show that to God we must also attribute simplicity, immutability, immateriality, incorporeality, eternity, necessity, omnipotence, omniscience, perfect goodness, will, love, and incomprehensibility.

The chapter then expounds and defends the *doctrine of divine conservation*, according to which the world could not exist even for an

instant if God were not continually sustaining it in being; and the *doctrine of divine concurrence*, according to which no created thing could have any causal efficacy if God were not imparting causal power to it at any moment at which it acts. Along the way it is shown that these and other arguments rule out conceptions of God's relationship to the world such as pantheism, panentheism, occasionalism, and deism. Chapter 6 ends with a discussion of what a miracle is and the sense in which God might cause miracles. (Those issues, as the reader will see, are crucial to determining whether there could be a source of knowledge about God outside of natural theology, in some special divine revelation—though whether any such revelation has occurred is a question beyond the scope of this book.)

Finally, chapter 7 addresses various criticisms of natural theology. These too will already have been dealt with to a considerable extent in the preceding chapters, but the aim of chapter 7 is both to address some objections not considered in earlier chapters, and to examine in even greater depth some of the objections that were considered in the earlier chapters. By the end of the chapter, and thus the end of the book, it will be clear that none of the objections against arguments of the sort defended in this book succeeds, and indeed that the most common objections are staggeringly feeble and overrated.

That is a confident claim, I realize. But natural theology, historically, was a confident discipline. A long line of thinkers from the beginnings of Western thought down to the present day—Aristotelians, Neo-Platonists, Thomists and other Scholastics, early modern rationalists, and philosophers of some other schools too, whether pagans, Jews, Christians, Muslims, or philosophical theists—have affirmed that God's existence can be rationally demonstrated by purely philosophical arguments. The aim of this book is to show that they were right, that what long was the mainstream position in Western thought ought to be the mainstream position again. The real debate is not between atheism and theism. The real debate is between theists of different stripes—Jews, Christians, Muslims, Hindus, purely philosophical theists, and so forth—and begins where natural theology leaves off. This book does not enter into, much less settle, that latter debate. I will be satisfied if it contributes to getting us back to the point from which the deepest questions can be addressed.

I

The Aristotelian Proof

Informal statement of the argument: Stage 1

Change occurs. Examples are all around us. The coffee in your cup grows cooler. A leaf on the tree outside your window falls to the ground. A puddle grows larger as the rain continues. You swat a fly and it dies.

These examples illustrate four kinds of change: *qualitative* change (the coffee cools down); change with respect to *location* (the leaf falls from the tree); *quantitative* change (the puddle increases in size); and *substantial* change (a living thing gives way to dead matter). That changes of these sorts occur is evident from our sensory experience of the world outside our minds.

But suppose our senses are deceiving us. Suppose your entire life has been one long dream or hallucination, of the sort Descartes described in his *Meditations* and which has been dramatized in science fiction films like *The Matrix*. Still, there would be no doubt even in this far-fetched scenario that change occurs. You have one experience, then another. You consider whether you are dreaming or hallucinating, then dismiss the idea as too silly to bother with, and then find that you are still troubled by the arguments you read in Descartes and wonder whether there might be something to them after all. *That* is a kind of change—change with respect to your thoughts and experiences.

Yet, might even those changes be a kind of illusion? After all, the Greek philosopher Parmenides notoriously argued that when we carefully analyze what change of any sort would have to involve, we will see that it is *impossible*. Consider once again your coffee, which starts out hot and after sitting on the desk for a while grows cold. You

might say that the coldness of the coffee, which does not exist while the coffee is hot, comes into existence. But now we have a problem, says Parmenides. For if the coldness of the coffee was initially nonexistent, then at that point it was *nothing*; and when it later comes into existence, it is then *something*. But something can't come from nothing. So, the coldness of the coffee cannot come into existence, and thus, the coffee cannot grow cold. Something similar could be said for any purported case of change—all of them would have to involve something coming from nothing, which is impossible. Hence, concludes Parmenides, change cannot ever really occur.

Perhaps you suspect there is something fishy about this argument, and if so, you would be right. One problem is that no one could possibly coherently accept it. Suppose you try to convince someone, even if only yourself, that change is an illusion—whether via Parmenides' argument or some other argument. You work your way through each step until you or your listener is convinced. Yet that your mind entertains one premise after the other and finally reaches the conclusion is *itself an instance* of the change the argument denies. The very act of casting doubt on whether change occurs *presupposes* that it occurs.

There is another problem with Parmenides' argument. As the later Greek philosopher Aristotle pointed out, it is a mistake to think that change would have to involve something coming from nothing. Go back to the coffee. It is true that while the coffee is hot, the coldness is not *actually* present. Still, it is there *potentially* in a way other qualities are not. The coffee does not, after all, have the potential to fuel a gasoline engine, or to turn itself into chicken soup, or for that matter to morph into a live chicken and begin squawking. But it does have the potential to grow cold, and it has various other potentials too—to make you more alert if you drink it, to stain the floor if you spill it, and so forth. That it has the potential to become cold while lacking certain other potentials shows that the coldness is not exactly *nothing*, even if it is not yet actual either.

What change involves, then, is for Aristotle the *actualization of a potential*. The coffee has the potential to become cold, and after sitting out for a while that potential is made actual. This is not a case of something coming from nothing—which, Aristotle agrees, is impossible—because, again, a potential is not nothing.

So, change occurs. Everyday experience shows that it does, and a little philosophical reflection not only reinforces this judgment but explains what change involves. But *how* does change occur? That depends on the change, of course. The coffee's getting cold is not the same kind of process as the falling of the leaf, the puddle's growing large, or the fly's being swatted. Still, whatever sort of change is in question, there will be *something* or other that brings it about.

Change requires a changer. We find examples all around us in everyday experience. The cool air in the room brings the temperature of the coffee down. A flick of your wrist brings the flyswatter down on the fly. But the thesis that change requires a changer is not merely a generalization from instances like these. It follows from *what change is*: the actualization of a potential. We saw that while the coffee is still hot, the coldness of the coffee is not exactly nothing, since it is there potentially in the coffee in a way other qualities are not. But it is still there *merely* potentially and not actually, otherwise the coffee would be cold already, even while it is hot, which of course it isn't. Now *potential* coldness can hardly do anything, precisely because it is merely potential. Only what is *actual* can do anything. In particular, the potential coldness of the coffee cannot make itself actual. Only something already actual can do that—the coolness in the surrounding air, or perhaps some ice cubes you might drop into the coffee. In general, any mere potential can only be actualized by something that is already actual. In that sense, any change requires a changer of some sort or other.

So, change occurs, and any change requires a cause; or to put it less colloquially but more precisely, some potentials are actualized, and when they are, there must be something already actual which actualizes them. Now, notice that often what is true of the thing being changed is also true of the thing changing it. The coolness of the air in the room makes the coffee cold. But the coolness of the air was itself merely potential until the air conditioner actualized it. The flick of your wrist causes the flyswatter to come down hard, and its impact in turn kills the fly. But the flick of your wrist was itself merely potential until the firing of certain motor neurons actualized it. So, when something causes a change, that is sometimes because it is undergoing a change itself; and when that is the case, that change too requires a changer. Or, once again to put things less colloquially

but more precisely, sometimes when a potential is being actualized, what actualizes it is itself something which has gone from potential to actual; and when that is the case, there must have been some further thing which made that happen.

Notice that I did not say that *everything* which causes a change must be undergoing change itself. That does not follow from anything said so far, and as we will see, it is not true. The point is rather that *if* something which causes a change is undergoing change itself, *then* that change requires a changer of its own. So, we sometimes have a *series* of changers and things changed. The coldness of the coffee was caused by the coolness in the surrounding air, which was caused by the air conditioner, which was caused to switch on when you pressed the appropriate button. The fly was killed by the impact of the flyswatter, which was caused by the flick of your wrist, which was caused by the firing of certain motor neurons, which was caused by your annoyance at the fly's buzzing around the room. One potential was actualized by another, which was in turn actualized by another, which was actualized by yet another.

So far this has all been common sense supplemented with some semitechnical jargon. But the jargon will help us to move beyond common sense—not to *contradict* it, but rather to follow out its implications. Consider next that series of changes of the sort we've described typically extend backward in time, in what we might think of as a *linear* fashion. The coffee is cold because the air in the room cooled it, the air was cold because of the air conditioner, the air conditioner went on because you pressed a certain button, and so forth. Now let's suppose for the sake of argument that this series extends backward into the past to infinity, without a beginning. You pressed the button, your desire to cool down the room caused you to do that, the effect of the room's heat on your skin brought about that desire, the sun generated that heat, and so on and on and on without there being any temporally first member of this series of changes and changers. The material world, we are supposing, has always been here, and has always been changing. That, as it happens, is what Aristotle himself thought.

Now these days it is often supposed that the Big Bang theory shows that he was wrong. On the other hand, some scientists have suggested that the Big Bang was itself the result of an earlier universe

imploding, or perhaps involved our universe branching off from some other, parallel universe. It is also sometimes suggested that the series of such preexisting universes is infinite, so that even if our particular universe had a beginning, the series as a whole did not. This is all very dubious, but whether it is true or not simply doesn't matter for our purposes. Again, let us grant for the sake of argument that the universe, or a "multiverse" comprising our universe together with other universes, has no beginning but has always existed.

Even *if* such linear series of changes and changers might in theory extend backward to infinity, with no first member, there is another kind of series—let us call it the *hierarchical* kind—which *must* have a first member. Remember that we were thinking of a linear series as extending backward in time—the coffee got cold because the room was cool, the room was cool because the air conditioner had made it so, you had switched on the air conditioner because you didn't like the heat, the heat had been generated by the sun, and so forth. To understand what a hierarchical series is, it will be useful, by contrast, to think instead of what might exist at a single *moment* of time. This is not in fact essential to a hierarchical series, but it is a useful way to introduce the idea.

So, consider, once again, the coffee cup as it sits on your desk. It is, we may suppose, three feet above the floor. Why? Because the desk is holding it up, naturally. But what holds the desk up? The floor, of course. The floor, in turn, is held up by the foundation of the house, and the foundation of the house by the earth. Now, unlike the coffee being cooled by the surrounding air, which is in turn cooled by the air conditioner, and so forth, this is not a series which need be thought of as extending backward in time. Of course, the cup may in fact have been sitting there on the desk for hours. But the point is that even if we consider the cup as it sits there at some particular moment, it is sitting there at that moment only because the desk is holding it up at that moment, and the desk is holding it up at that moment only because it is in turn being held up, at that same moment, by the floor. Or consider the lamp above your head, which is held up by a chain, which is in turn held up by the fixture screwed into the ceiling, all at the same moment. In both cases we have what I have called a hierarchical series of causes, in the first case tracing downward to the ground and in the other case upward to the ceiling.

Now since we are considering each of these hierarchical series as existing at a particular moment of time rather than over the course of minutes or hours, it might seem odd to think of them as involving *change*. But our consideration of the nature of change led us to introduce the idea of actualizing a potential, and each of these series does involve that. The potential of the cup to be three feet off the ground is actualized by the desk, the potential of the desk to hold the cup aloft is actualized by the floor, and so forth. Similarly, the potential of the lamp to be seven feet from the ground is actualized by the chain, and the potential of the chain to hold the lamp aloft is actualized by the fixture screwed into the ceiling.

What makes these series *hierarchical* in the relevant sense, though, is not that they are simultaneous, but that there is a certain sort of *dependence* of the later members on the earlier ones. The cup has no capacity on its own to be three feet from the ground; it will be there only if something else, such as the desk, holds it up. But the desk in turn has no power on *its* own to hold the cup there. The desk too would fall to the earth unless the floor held it aloft, and the floor, for that matter, can hold up the desk only because it is itself being held up by the house's foundation, and the foundation by the earth. Similarly, the lamp can hang there at seven feet off the ground only because the chain is holding it there, while the chain can hold it there only because it is in turn being held up by the fixture and the fixture by the ceiling. The ceiling, however, can hold up the fixture only because it is itself being held up by the walls, which are also held up by the foundation, which is held up by the earth. So, you might say that it is really the earth that is holding up both the cup and the lamp, and that it is doing so *through* these intermediaries. The desk, chain, walls, and floor have no power to hold anything up except insofar as they *derive* that power from the earth. They are in that sense like *instruments*. Just as it is not a brush which paints a picture but rather the painter who uses the brush as an instrument who paints it, so too is it the earth which holds up the cup and the lamp, with the floor, walls, desk, chain, and so forth serving, as it were, as *its* instruments.

What makes a hierarchical series of causes hierarchical, then, is this instrumental or derivative character of the later members of the series. The desk will hold the cup aloft only so long as it is itself being

held up by the floor. If the floor collapses, the desk will go with it and the cup will fall as a result. The members of a linear series are not like that. The air conditioner is on because you turned it on. Still, once you've done so, the air conditioner will keep cooling the room even if you left the house or dropped dead.

Now, it is because of this difference that a hierarchical series of causes has to have a first member while a linear series does not. But it is crucial to understand what "first" means in this context. As has already been indicated, the idea of a hierarchical series is best introduced by thinking in terms of a sequence whose members exist all together at a single moment of time, such as the cup which is held up by the desk which is held up by the floor. So, when it is said that such a series must have a first member, the claim is *not* that the series has to be traced back to some beginning point in the past (at the Big Bang, say).

The idea is rather this. Since the desk, the floor, and the foundation have no power of their own to hold the cup aloft, the series could not exist in the first place unless there were something that *did* have the power to hold up these intermediaries, and the cup through them, *without* having to be held up *itself*. You might say that if the desk, floor, walls, and so forth are acting like instruments of a sort, then there must, as it were, be something whose instruments they are. Or to put the point another way, if they have only derivative power to hold things up, then there must be something from which they derive it, something which does not have to derive it from anything else in turn but just has it "built in". The sort of "first" cause that a hierarchical series must have, then, is a cause that has the power to produce its effects in a *non*derivative and *non*instrumental way. In the case of the cup, where the desk holds it up only because it derives its power to do so from the floor, and the floor from the foundation, none of these things could hold up anything at all unless there were something which holds them up without having to be held up itself.

Now it was suggested above that we could think of the earth as the "first" cause in this series, since there is an obvious sense in which it holds up the floor, walls, desk, cup, and lamp, while nothing is holding the earth itself up. In fact even the earth is *not* a "first" cause in the strict sense, but we'll come back to that. The point to emphasize

for now is that it is being the sort of thing that has nonderived causal power—being the sort of thing that can actualize a potential without itself having to be actualized—that makes something a "first" cause in the sense relevant to understanding a hierarchical series of causes. As I have already said, being "first" in a temporal sense, in the sense of coming at some beginning point in time, is not what is at issue. But even the idea of a series of causes that is only finitely rather than infinitely long is not essential to the notion of a hierarchical causal series. To take an example sometimes used to illustrate the point, a paintbrush has no power to move itself, and it would remain powerless to move itself even if its handle were infinitely long. Hence, even if there could be an infinitely long brush handle, if it is actually going to move, there will still have to be something outside it which *does* have the "built-in" power to cause it to move. Or to return to our own example, a desk has no power all on its own to hold up the cup, and thus an infinite series of desks, if there could be such a thing, would be as powerless to hold it up as a single desk would be. Hence, even if such a series existed, there would have to be something outside it which could impart to it the power to hold up the cup. When we say that a hierarchical series of causes has to have a first member, then, we don't mean "first" in the sense of being the one that comes before the second, third, fourth, fifth, and so on. We mean it is the first cause in the sense that it has *inherent* or *built-in* causal power while the others have only *derived* causal power. It is their having only derivative causal power that makes the other members secondary rather than first or primary.

Let us pause to take stock, because things have gotten a bit abstract. We started out by noting that there can be no doubt that change occurs, and that change can occur only if things have *potentials* which can be *actualized.* We also saw that any change requires a changer in the sense that whenever a potential is actualized, there must be something already actual that actualizes it. Having introduced this distinction between what is potential and what is actual, we went on to make a further distinction between two kinds of series in which one potential is actualized by another, which is actualized by another. The first sort, which we called a *linear* series, is the sort we usually imagine when we think of change. It was illustrated by the coffee being cooled by the surrounding air in the room, which was itself

cooled by the air conditioner, which was turned as a result of your having pressed a certain button, and so forth. In this sort of series, the members have their own causal power. After you have turned it on, the air conditioner can continue to cool the room even after you are no longer present. Even the air will remain cool for some time after the air conditioner is turned off, and will therefore retain the power to cool down the coffee.

What we called a *hierarchical* series of causes is very different. Here every cause other than the first has its causal power only in a derivative way. Thus the desk, floor, and foundation have no power to hold aloft the coffee cup except insofar as they derive it from the earth this whole series rests on. This takes us beyond what we would ordinarily think of as change, because we would ordinarily think of the sequence of the cup, desk, floor, foundation, and earth as simultaneous. But what matters is that we do still have the actualization of potentials, the notion of which was introduced as a way of making sense of change. The potential of the cup to be three feet off the ground is actualized by the desk, the desk's potential to hold the cup aloft is actualized by the floor, and so forth.

Now it is this second, hierarchical sort of series that ultimately concerns us here, for it is more fundamental to reality than the other linear sort of series is.[1] To be sure, it is at first easier for us to recognize and understand the linear sort of series, because the kinds of change it involves are familiar to us from everyday experience. By contrast, introducing the notion of a hierarchical series required us first to abstract from this everyday experience the notion of actualizing a potential, and then to apply that notion to a context to which the passage of time is not essential. But once we have done that, we can see that every series of the linear sort presupposes series of the hierarchical sort. We can see that to understand the changes we observe all around us in everyday life—coffee getting cold, the fly being swatted, and so on—we need to understand how hierarchical series trace down to first causes. To a *single* first cause, in fact.

[1] What I am here calling the distinction between a linear causal series and a hierarchical causal series is also sometimes characterized as the distinction between a series of causes ordered per accidens or accidentally, and a series of causes ordered per se or essentially. For further discussion, see Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014), pp. 148–54.

How so? Go back to the coffee in the cup. To state the obvious, it can only get cold, or be held up by the desk, if it exists; nonexistent coffee cannot do either, or anything else for that matter. Now, what makes it the case that the coffee exists? Obviously someone made it by pouring hot water through coffee grounds, but that's not what I'm asking about. I mean, what makes it true that the coffee exists *here and now*, and at any particular moment that it exists? What *keeps* it in existence?

For one thing, the coffee will exist only insofar as the water that makes up the bulk of it exists, so to simplify things somewhat let's consider that. What keeps the water in existence at any particular moment? After all, given the chemistry of the water, the matter that makes it up also has the *potential* to exist instead as distinct quantities of oxygen and hydrogen. But that is not the potential that is being actualized right *now*; instead, it is that matter's potential to exist as *water* that is being actualized right now. Why? It is no good to answer that such-and-such a process occurred at some time in the past so as to combine the hydrogen and oxygen in just the right way. That tells us how the water *got* here, but that is not what we are asking about. It is also no good to point out that nothing has yet come along to separate out the hydrogen and oxygen. That tells us how the water might someday go out of existence, but that isn't what we're asking about either. What we're asking about, again, is what *keeps* the water in existence at any instant at which it does in fact exist.

You might say that it has to do with chemical bonding between atoms, but that merely rephrases rather than answers the question. For the atoms have the potential to be bonded in other ways, and yet they are not so bonded. It is their potential to be bonded in such a way that *water* results that is in fact being actualized. Again, why? Appealing to the structure of the atom won't answer the question either, but merely pushes it back a stage. For why are the subatomic particles combined in just the specific way they are, here and now, rather than some other way? What is it that actualizes *that* potential rather than another?

What we have here, as you may have noticed, is something like the cup which is held up by the desk which is held up by the floor. Only in this case it is the very *existence* of a thing that is at issue rather than merely its particular location. The potential of the coffee to exist

here and now is actualized, in part, by the existence of the water, which in turn exists only because a certain potential of the atoms is being actualized, where these atoms themselves exist only because a certain potential of the subatomic particles is being actualized. This is a *hierarchical* series—one which, as we have seen, must have a first member. We have also seen that what it means for such a series to have a first member is that there is something which can impart causal power to the other members of the series without having to have that power imparted to it—something that has its causal power in a "built-in" or nonderivative way. Now since what is being explained in this case is the actualization of a thing's potential for *existence*, the sort of "first" cause we are talking about is one which can actualize the potential for other things to exist without having to have its own existence actualized by anything.

What this entails is that this cause doesn't have any *potential* for existence that needs to be actualized in the first place. It just *is* actual, always and already actual, as it were. Indeed, you might say that it doesn't merely *have* actuality, the way the things it actualizes do, but that it just *is pure actuality* itself. It doesn't merely *happen* not to have a cause of its own, but *could not in principle* have had or needed one. For being devoid of potentiality, there is nothing in it that could have needed any actualizing, the way other things do. It is in this sense that it is an uncaused cause, or to use Aristotle's famous expression, an Unmoved Mover. More precisely, we might call it an *unactualized actualizer.*

Notice that we reached this result by beginning with ordinary individual objects and processes, such as a coffee cup and the cooling down of the coffee within it. We didn't start by asking where the universe as a whole came from, and we *need not* start with any claim about the universe as a whole in order to get to an unactualized actualizer. But what we have said has *implications* for the universe as a whole. For what is true of the water in the coffee is true of every other material thing—the leaf that fell from the tree, the fly you swatted, and so on and on. *Every* material thing is such that it can exist at any moment only if certain potentials are actualized. Hence, it is ultimately such that, like the water in the coffee, it can exist at any moment only insofar as it is caused to exist by an unactualized actualizer.

As I have said, we reached this result from a consideration of everyday phenomena, but things have gotten even more abstract, so let's briefly retrace our steps. We started with the observation that change occurs and saw that this cannot coherently be denied. We then saw that change can occur only if the things that change have potentials which can be actualized—the potential to be cooled down, the potential to grow in size, or what have you—since change is just the actualization of a potential. And we saw that change requires a changer insofar as a potential can be actualized only by something already actual. Now, we then noted that there are, on the one hand, series of changes of what we called a *linear* sort, the kind illustrated by the coffee which was cooled by the air which was cooled by the air conditioner which was switched on when you pressed a button. That kind of series does not require a first member. But we also saw that there is another kind of series in which one potential is actualized by another which is in turn actualized by another, in which there *must* be a first member. In this *hierarchical* sort of series, the first member is "first" in the sense that it can cause other things without being caused itself. It has its causal power in a primary, inherent, or "built-in" way, whereas the other members of the series have their causal power in only a secondary, derivative way.

We saw next that linear series of changes are less fundamental than the hierarchical sort of series. For things can change only because they exist—the coffee, for example, cannot grow cold unless it exists—and for a thing to exist at any particular moment requires that it be actualized at that moment, at least if it is the sort of thing which has the potential either to exist or not to exist. This, in turn, is possible only if there is a cause of the existence of a thing which can actualize its potential for existence without having to be actualized itself—a purely actual actualizer of the thing's existence.[2] And we saw that this

[2] You will recall that the way I characterized the situation in the example given earlier is that something has to actualize the potential of the relevant atoms to be bonded in such a way that water results. That makes it sound as if the water is nothing but an aggregate of the atoms. In fact, on the Aristotelian hylemorphic understanding of material substance, the water is not such an aggregate, because the atoms exist only "virtually" rather than "actually" in the water. Metaphysically speaking, the fundamental constituents of the water are not the atoms, but rather the water's substantial form and prime matter. But Aristotelian hylemorphism is controversial, and I refrained from putting things in terms of it, because doing so is not

conclusion can be generalized, insofar as what is true of the coffee in our example is going to be true of any other material thing as well. So, from the fact that change occurs we are led to conclude that there is an unactualized actualizer or Unmoved Mover.

Informal statement of the argument: Stage 2

In other words, the undeniable reality of change entails *the existence of God*. Why call the unactualized actualizer or Unmoved Mover "God"? For one thing, this cause is, among other things, the ultimate cause of the existence of things, in the most intimate sense of being that which keeps them in existence at any moment at which they exist at all. And whatever else God is supposed to be, he is the ultimate cause of things.

For another thing, various further attributes definitive of God as traditionally conceived follow from what has already been said. We will in a later chapter see how in some detail, but for the moment a brief sketch will suffice to convey the general idea. First of all, since the cause of things is pure actuality and therefore devoid of potentiality, it cannot go from potentiality to actuality and is thus *immutable* or unchanging. Since existing within time entails changeability, an immutable cause must also be *eternal* in the sense of existing outside of time altogether. It neither comes to be nor passes away but simply *is*, timelessly, without beginning or end. Since to be material entails being changeable and existing within time, an immutable and eternal cause must be *immaterial* and thus *incorporeal* or without any sort of body.

Consider now what it is for a thing to be in some respect or other imperfect or flawed. An injured animal or damaged plant is imperfect insofar as it is no longer capable of realizing fully the ends

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necessary to the argument. But naturally, we could state the point in hylemorphist terms instead if we wanted to. For on the Aristotelian analysis, the prime matter of a material substance depends for its concrete existence on the substance's substantial form, and the substantial form depends for its concrete existence on being realized in prime matter. Thus, we would have an explanatory vicious circle unless there were something outside the form-matter composite that actualizes it or keeps it in being. (See Feser, *Scholastic Metaphysics*, chap. 3, for detailed exposition and defense of the Aristotelian analysis of substance.)

its nature has set for it. For instance, a squirrel which has been hit by a car may be unable to run away from predators as swiftly as it needs to; and a tree whose roots have been damaged may be unstable or unable to take in all the water and nutrients it needs in order to remain healthy. A defect of this sort is (to use some traditional philosophical jargon) a *privation*, the absence of some feature a thing would naturally require so as to be complete. It involves the failure to realize some *potential* inherent in a thing. Something is perfect, then, to the extent that it has actualized such potentials and is without privations. But then a purely actual cause of things, precisely since it is purely actual and thus devoid of unrealized potentiality or privation, possesses maximal *perfection*.

Could there be more than one such cause? There could not, not even in principle. For there can be two or more of a kind only if there is something to differentiate them, something that one instance has that the others lack. And there can be no such differentiating feature where something purely actual is concerned. Thus, we typically distinguish the things of our experience by their material or temporal features—by one thing being larger or smaller than another, say, or taller or shorter than another, or existing at a time before or after another. But since what is purely actual is immaterial and eternal, one purely actual thing could not be differentiated from another in terms of such features. More generally, two or more things of a kind are to be differentiated in terms of some perfection or privation that one has and the other lacks. We might say, for instance, that this tree's roots are more sturdy than that one's, or that this squirrel is lacking its tail while the other has its tail. But as we have seen, what is purely actual is completely devoid of any privation and is maximal in perfection. Hence, there can be no way in principle to differentiate one purely actual cause from another in terms of their respective perfections or privations. But then such a cause possesses the attribute of *unity*—that is to say, there *cannot be*, even in principle, more than one purely actual cause. Hence, it is the *same* one unactualized actualizer to which all things owe their existence.

Consider now that to have power is just to be able to make something happen, to *actualize* some potential. But then, since the cause of the existence of all things is *pure actuality itself* rather than merely

one actual thing among others, and it is the *source* of all the actualizing power anything else has, it has all possible power. It is *omnipotent.* Consider further that a thing is good, in a general sense, to the extent that it realizes the potentials inherent in it as the kind of thing it is, and bad to the extent that it fails to realize them. A good painter, for example, is good to the extent that he has realized his potential for mastery of the various aspects of painting—craftsmanship, composition, and so forth—while a bad painter is bad to the extent that he has failed to acquire the relevant skills. But a purely actual cause of the world, devoid as it is of potentiality, cannot be said to be bad or deficient in any way, but on the contrary (as we have seen) to be perfect. In that sense such a cause must be *fully good.*

So far, then, we have seen that the purely actual actualizer or Unmoved Mover must be *one, immutable, eternal, immaterial, incorporeal, perfect, omnipotent,* and *fully good* cause of the existence of things, in the sense of being that which keeps all things in being from moment to moment. Can we attribute attributes of a more personal nature to this cause? For instance, can we attribute to it something like intelligence? We can. But to see how, we must first say something about the nature of intelligence, and also something more about the nature of cause and effect.

Intelligence, as traditionally understood, involves three basic capacities. First, there is the capacity to grasp abstract concepts, such as the concept *man,* which is what you have when you not only know this or that particular man or this or that particular subset of men, but *what it is to be a man in general.* To have the concept *man* is to have a universal idea that applies to all possible men, not only those that do exist or have existed, but also all those that could exist. Second, there is the capacity to put these ideas together into complete thoughts, as when you combine the concept *man* and the concept *mortal* in the thought that *all men are mortal.* Third, there is the capacity to infer one thought from others, as when you reason from the premises that *all men are mortal* and *Socrates is a man* to the conclusion that *Socrates is mortal.* Obviously the capacity to grasp abstract or universal concepts is the most fundamental of these three. You couldn't form complete thoughts or reason from one thought to another if you didn't have the concepts that are the constituents of the thoughts.

Now to have such a concept is to have a kind of *form or pattern* in the mind, and the same form or pattern that exists in the things you might think about. There is a form or pattern that all men have that makes them all the same thing—namely, men; there is a form or pattern that all triangles have that makes *them* all the same thing—namely, triangles; and so forth. Now when these forms or patterns come to exist in material things, the results are the various individual objects—individual men, individual triangles, and so forth—that we find in the world around us. When we think about men or triangles in general, though, we abstract away from all the different particular men and triangles, and focus on what is common or universal to them. And that is really the essence of strictly intellectual activity—the capacity to have the universal or abstract form or pattern of a thing without *being* that kind of thing. A material object that has the form or pattern of a triangle just *is* a triangle. When you contemplate what it is to be a triangle, you have that form or pattern of being a triangle as well, but without being a triangle.

We'll come back to the notion of intelligence in a moment. Let's now say a little more about cause and effect. We've noted that when something is either changed or caused to exist, a potential is actualized, and that something already actual must be what actualizes it. This is sometimes called the *principle of causality*. A further point to make about cause and effect is that whatever is in some effect must in *some* way or other be in the cause, even if not always in the same way. For a cause cannot give what it does not have to give. This is sometimes called the *principle of proportionate causality*.

Suppose, for example, that I give you $20. The effect in this case is your having the $20, and I am the cause of this effect. But the only way I can cause that effect is if I have the $20 to give you in the first place. Now there are several ways in which I might have it. I might have a $20 bill in my wallet, or two $10 bills, or four $5 bills. Or I may have no money in my wallet, but do have $20 in my bank account and write you a check. Or I may not have even that, but I am able to borrow the $20 from someone else, or work for it, so that I can go on to give it to you. Or perhaps I have a friend who has a key to the U.S. Treasury printing press and I get him to run off an official $20 bill for me to give to you. Or to take an even more farfetched scenario, suppose that in order to guarantee that you

get that $20 I somehow convince Congress to pass a law which permits me personally to manufacture my own $20 bills. These are all various ways in which I might in theory give you $20. But if *none* of these ways are available to me, then I can't do it.

Again, these are *different* ways in which the cause may have what is in the effect. When I myself have a $20 bill ready to hand and I cause you to have it, what is in the effect was in the cause *formally*, to use some traditional jargon. That is to say, I myself was an instance of the form or pattern of having a $20 bill, and I caused you to become another instance of that form or pattern. When I don't have the $20 bill ready to hand but I do have at least $20 credit in my bank account, you might say that what was in the effect was in that case in the cause *virtually*. For though I didn't actually have the $20 on hand, I did have the power to get hold of it. And when I get Congress to grant me the power to manufacture $20 bills, you might say (once again to use some traditional jargon) that I had the $20 *eminently*. Because in that case, I not only have the power to *acquire* already-existing $20 bills, but the more "eminent" power of causing them to exist in the first place. When it is said, then, that what is in an effect must in some way be in its cause, what is meant is that it must be in the cause at least "virtually" or "eminently" even if not "formally".

Now, consider once again the purely actual actualizer of the existence of things. We have seen that the existence of *anything* that might exist is going to trace to this one cause. It is the cause of every possible thing that might exist. Now to cause a thing to exist is precisely to cause something of a particular *sort*—a stone rather than a tree, say, or a tree rather than a cat. That is to say, to cause something to exist is just to cause something having a certain *form* or fitting a certain *pattern*. But as we have just said, the purely actual cause of things is the cause of every possible thing—every possible cat, every possible tree, every possible stone. It is for that reason the cause of every possible form or pattern a thing might have. We have also noted that whatever is in an effect must in some way or other be in its cause.

Put these points together and what follows is that the forms or patterns of things must exist in the purely actual cause of things; and they must exist in it in a completely universal or abstract way, because this cause is the cause of every possible thing fitting a certain form or

pattern. But to have forms or patterns in this universal or abstract way is just to have that capacity which is fundamental to intelligence. Add to this consideration the fact that this cause of things is not just the cause of things themselves, but of their being related in any way they might be related. That is to say, it is not only the cause of *men* but of the fact that *all men are mortal*; not just the cause of *this cat*, but of *this cat's being on this mat*; and so forth. So, there must be some sense in which these effects too exist in their purely actual cause, and it must be in a way that has to do with the combination of the forms or patterns that exist in that cause. That is to say, the effects must exist in the cause in something like the way *thoughts* exist in us.

So, what exists in the things that the purely actual cause is the cause of *preexists* in that cause in something like the way the things we make preexist as ideas or plans in our minds before we make them. These things thereby exist in that purely actual cause *eminently* and *virtually* even if not *formally*. For the cause of things is not itself a cat or a tree (and cannot be, given that it is immaterial), but it can cause a cat or a tree, or anything else that might exist. But it is not merely intelligence that we can therefore attribute to the cause of things. Consider that as the intelligent cause of everything that exists or could exist, there is nothing that exists or could exist that is not in the range of this cause's thoughts. It is in that sense all-knowing or *omniscient*.

Now, much more could be said. The topic of the divine attributes deserves a chapter of its own, and we will devote a chapter to it later on. But this sketch should make it clear enough that we can say a great deal about the nature of the cause of things, and in particular a great deal to show that this cause really does fit the description of God as traditionally conceived.

A more formal statement of the argument

Let's briefly summarize. We have seen that it cannot coherently be denied that change occurs, and we have noted that change can occur only if things have potentials which are actualized by something already actual. Hence, the hot coffee has the potential to be cooled, and that potential is actualized by the coolness in the surrounding air. We have also argued that while a *linear* series of changes and changers

might in principle extend backward in time without beginning, the members of these series must depend at any moment at which they exist on a *hierarchical* series of actualizers, and that such a series must terminate in a purely actual cause or actualizer of their existence. And it has now been argued that any such cause must be *one, immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent,* and *omniscient*—that is to say, it must have the key divine attributes. In short, the things of our experience can exist at any moment only if sustained in existence by God.

So far, I have stated the argument in an informal and unhurried way so as to facilitate understanding, especially among readers not used to the technicalities of academic philosophy. But now that the overall thrust of the reasoning is clear, it will be useful to have a summary presented in a somewhat more formal way. It might be stated as follows:

1. Change is a real feature of the world.
2. But change is the actualization of a potential.
3. So, the actualization of potential is a real feature of the world.
4. No potential can be actualized unless something already actual actualizes it (the principle of causality).
5. So, any change is caused by something already actual.
6. The occurrence of any change C presupposes some thing or substance S which changes.
7. The existence of S at any given moment itself presupposes the concurrent actualization of S's potential for existence.
8. So, any substance S has at any moment some actualizer A of its existence.
9. A's own existence at the moment it actualizes S itself presupposes either (a) the concurrent actualization of its own potential for existence or (b) A's being purely actual.
10. If A's existence at the moment it actualizes S presupposes the concurrent actualization of its own potential for existence, then there exists a regress of concurrent actualizers that is either infinite or terminates in a purely actual actualizer.
11. But such a regress of concurrent actualizers would constitute a hierarchical causal series, and such a series cannot regress infinitely.

12. So, either A itself is a purely actual actualizer or there is a purely actual actualizer which terminates the regress that begins with the actualization of A.
13. So, the occurrence of C and thus the existence of S at any given moment presupposes the existence of a purely actual actualizer.
14. So, there is a purely actual actualizer.
15. In order for there to be more than one purely actual actualizer, there would have to be some differentiating feature that one such actualizer has that the others lack.
16. But there could be such a differentiating feature only if a purely actual actualizer had some unactualized potential, which, being purely actual, it does not have.
17. So, there can be no such differentiating feature, and thus no way for there to be more than one purely actual actualizer.
18. So, there is only one purely actual actualizer.
19. In order for this purely actual actualizer to be capable of change, it would have to have potentials capable of actualization.
20. But being purely actual, it lacks any such potentials.
21. So, it is immutable or incapable of change.
22. If this purely actual actualizer existed in time, then it would be capable of change, which it is not.
23. So, this purely actual actualizer is eternal, existing outside of time.
24. If the purely actual actualizer were material, then it would be changeable and exist in time, which it does not.
25. So, the purely actual actualizer is immaterial.
26. If the purely actual actualizer were corporeal, then it would be material, which it is not.
27. So, the purely actual actualizer is incorporeal.
28. If the purely actual actualizer were imperfect in any way, it would have some unactualized potential, which, being purely actual, it does not have.
29. So, the purely actual actualizer is perfect.
30. For something to be less than fully good is for it to have a privation—that is, to fail to actualize some feature proper to it.
31. A purely actual actualizer, being purely actual, can have no such privation.
32. So, the purely actual actualizer is fully good.

33. To have power entails being able to actualize potentials.
34. Any potential that is actualized is either actualized by the purely actual actualizer or by a series of actualizers which terminates in the purely actual actualizer.
35. So, all power derives from the purely actual actualizer.
36. But to be that from which all power derives is to be omnipotent.
37. So, the purely actual actualizer is omnipotent.
38. Whatever is in an effect is in its cause in some way, whether formally, virtually, or eminently (the principle of proportionate causality).
39. The purely actual actualizer is the cause of all things.
40. So, the forms or patterns manifest in all the things it causes must in some way be in the purely actual actualizer.
41. These forms or patterns can exist either in the concrete way in which they exist in individual particular things, or in the abstract way in which they exist in the thoughts of an intellect.
42. They cannot exist in the purely actual actualizer in the same way they exist in individual particular things.
43. So, they must exist in the purely actual actualizer in the abstract way in which they exist in the thoughts of an intellect.
44. So, the purely actual actualizer has intellect or intelligence.
45. Since it is the forms or patterns of all things that are in the thoughts of this intellect, there is nothing that is outside the range of those thoughts.
46. For there to be nothing outside the range of something's thoughts is for that thing to be ominiscient.
47. So, the purely actual actualizer is omniscient.
48. So, there exists a purely actual cause of the existence of things, which is one, immutable, eternal, immaterial, incorporeal, perfect, fully good, omnipotent, intelligent, and omniscient.
49. But for there to be such a cause of things is just what it is for God to exist.
50. So, God exists.

Some objections rebutted

Naturally all sorts of objections are bound to be raised against this argument. For example, the derivation of the divine attributes

presupposes a number of philosophical assumptions which are bound to be controversial. Again, I am going to address the question of the divine attributes at much greater length in a later chapter, and answer therein the various objections which might be raised. The point of what has been said so far is merely to give the reader a sense of how the Aristotelian argument for the existence of God takes us well beyond a mere cause of the existence of change. A common but entirely ungrounded objection to first cause arguments for God's existence is that even if they could get you to a cause of the world, they couldn't tell you enough about the nature of that cause to justify identifying it with God as traditionally conceived. What has been said so far suffices to show how problematic this objection is, and by the end of the book it will be clear that it has no force at all.

There are other objections raised against first cause arguments in general, which will be addressed in another later chapter devoted to answering such objections. But some objections should be addressed immediately, especially those pertaining to the distinctively Aristotelian aspects of the argument given above.

Common misunderstandings

Let's begin with a response to some further common objections, which are bound to seem to some readers obvious and even fatal, but which in fact rest on egregious misunderstandings of the argument and have no force at all. For example, some readers are bound to think that I have been arguing that if we trace the series of causes of things back in time, we'll get to a beginning of the universe, and that God was the cause of that beginning. I tried to make it clear that that is *not* what I am saying, but people are so used to thinking of an argument for God's existence in those terms that they will read this idea even into an argument that explicitly denies it. And then they are bound to go on to ask how we can be so sure that the universe really did have a beginning. But what I said, remember, is that even if a given series of changes has *no* beginning in time, even if the universe or series of universes extends *forever* into the past, that would be irrelevant to the argument. For the argument is rather that for things to exist *here and now*, and at any moment at which they exist, they must be *here and now* sustained in existence by God.

Similarly, some might suppose that the argument proceeds from the assumption that the entire universe has to have some cause. And then they will go on to object that even if this or that part of the universe has a cause, it doesn't follow that the whole universe has one. But in fact the claim that the universe as a whole has a cause is *not* a premise of the argument I've just given. What I argued was that for any particular thing to exist at any moment, God must be causing it to exist at that moment. To argue for the existence of God, you don't need to start from the claim that the universe had a beginning, and you don't need to start with any other claim about the universe as a whole either. You can start with any old trivial object existing here and now—a stone, a cup of coffee, whatever—because even for that one thing to exist, even for a moment, there must be a purely actual cause actualizing it at that moment. Now, it is true that I also went on to claim that this applied to everything that exists, and so I did make a claim about the universe as a whole. But that claim was a *consequence* of the argument, not a *premise* of the argument.

Another stock objection raised against arguments like the one just presented goes like this: If everything has a cause, then what caused God? If we say that God does not have a cause, then maybe other things don't have a cause either. The argument, so the critic claims, commits the fallacy of special pleading, making an arbitrary exception in God's case to the rule it applies to everything else. But in fact this objection is no good, and the argument I have been developing does not commit any fallacy of special pleading. First of all, the argument does *not* rest in the first place on the premise that "*everything* has a cause." What it says is that any *change* requires a cause; more precisely, it says that *whatever goes from potential to actual* has a cause. That is very different from saying that *everything whatsoever* has a cause. Secondly, the argument is by no means arbitrary in claiming that God does not have a cause of his own. For the *reason* other things require a cause is precisely because they have *potentialities* that need to be actualized. By contrast, what is purely actual has no potentialities, and so there is nothing in it that needs to be, or indeed could be, actualized. Naturally, then, it is the one thing that need not have, and indeed could not have, a cause of its own.

The importance of these points cannot be overemphasized. Some critics of first cause arguments are so invested in the "If everything

has a cause, then what caused God?" objection that they are reluctant to give it up even when it is exposed as being directed at a straw man. They might try to suggest, for example, that there is no siguificant difference between saying that *whatever goes from potential to actual has a cause* and saying that *everything has a cause*. But that is as silly as claiming that there is no significant difference between saying that *all triangles have three sides* and saying that *all geometrical figures have three sides*.

They might also suggest that the argument refrains from saying that *everything* has a cause merely as an ad hoc way of avoiding the "What caused God?" objection. But there are three problems with this suggestion. First, even if the suggestion were true, that wouldn't show that the claim that *whatever goes from potential to actual has a cause* is false or that the Aristotelian argument for God's existence is unsound. To assume that a person's motivations for making a claim or giving an argument by themselves cast doubt on the claim or the argument is to commit an ad hominem fallacy.

But second, the suggestion in question is, as a matter of historical fact, simply false. For more than twenty-three hundred years, from Aristotle to Aquinas to the present day, proponents of different versions of the Aristotelian argument have claimed, not that everything has a cause, but rather that what goes from potential to actual has a cause. They did not invent the latter claim as a way of trying to get around the objection in question. That was *always* the claim from the start.

Third, there is nothing in any way ad hoc about the claim. It follows quite naturally from Aristotle's analysis of change, independently of any application to arguments for the existence of God. And one hardly needs to believe in God in order to find it implausible to suppose that something that is merely potential could actualize itself. In fact, the only thing that is ad hoc here is some critics' desperate attempt to salvage the "What caused God?" objection in the face of the overwhelming evidence that it is directed at a straw man and has no force.

Hume and Kant on causation

Still, the critic may insist, following the empiricist philosopher David Hume, that in theory even coffee cups, stones, and the like might exist without a cause. I have said that any potentiality that is

actualized must be actualized by something already actual. But didn't Hume show that it is at least conceivable that something could pop into existence uncaused? And in that case couldn't something go from potential to actual without being caused to do so by something already actual?

But in fact Hume showed no such thing. What Hume had in mind was the sort of case where we imagine an empty space in which something suddenly appears—a stone, or a coffee cup, or whatever. Of course, that is imaginable. But that is hardly the same thing as conceiving of the stone or coffee cup coming into being without a cause. At the very most it is conceiving of it without at the same time conceiving of its cause, and that is completely unremarkable. We can conceive of something being a trilateral—a closed plane figure with three straight sides—without at the same time thinking of it as a triangle. But it doesn't follow that any trilateral could ever exist in reality without being at the same time a triangle. We can conceive of some man without conceiving of how tall he is, but it doesn't follow that any man could exist without some specific height. In general, to conceive of A without at the same time conceiving of B is not the same thing as conceiving of A existing without B. But then, even if I can conceive of a stone or a coffee cup suddenly appearing without at the same time conceiving of its cause, it doesn't follow that I have conceived of it as having no cause, and it doesn't follow that it could exist in reality without a cause.

For another thing, and as the philosopher Elizabeth Anscombe pointed out, for Hume to make his case he has to tell us why a coffee cup suddenly appearing in a previously empty space counts as an instance of *coming into existence* in the first place, whether with a cause or otherwise. For why shouldn't we suppose instead that the cup has merely been transported from somewhere else? So, Hume would need to add something to his scenario in order to distinguish the cup's coming into existence from its merely being transported. But now Hume has a problem. For the only way to distinguish a cup's *coming into existence* from its *being transported* is by reference to the *causes* of these different sorts of event. A cup's coming into existence involves one sort of cause (molding a bit of porcelain or plastic, say), while a cup's being transported involves another sort of cause (someone's picking it up and moving it). Hume's scenario was supposed

to eliminate the notion of a cause, but to spell it out in the detail he needs ends up bringing back in the notion of a cause.[3]

It is also ironic that an empiricist would question the principle of causality, given that it is as well supported by experience as any claim could be. For in general, we do in fact find causes when we look for them, and when we don't find them (e.g., when investigating an unsolved murder) we have reason to think they are nevertheless there and would be found if only we had all the pertinent evidence and the time and resources for a more thorough investigation. Not only is this just what we would expect if the principle of causality is true, but it is not at all what we should expect if it were false. As W. Norris Clarke points out, if the principle were false, "then nothing at all would be required to produce anything at all: an elephant, or a hotel could appear suddenly on your front lawn out of nowhere", and "it should be the easiest thing in the world for them to be popping up all the time."[4] But of course this is not the way the world actually works.

The best explanation of why the world works in just the way it does is that there is something in the very nature of potentiality that requires actualization by something already actual—that is, the best explanation is that the principle of causality is true. The fact that we tend to find causes for things that come into being, and that things do not regularly pop into existence without any evident cause, would be miraculous if the principle were false.

An alternative criticism might look to Immanuel Kant rather than David Hume. We learn that things have causes from our observation of the empirical world. The surrounding air cools down the coffee, the air conditioner cools the air, you turn on the air conditioner, and so forth. But even if we acknowledge that the principle of causality applies within the world of our experience, why should we suppose that we can extend it beyond the empirical world, to a purely actual actualizer of things—to something which, because it is immaterial, outside of time and space, is unobservable?

[3] See G. E. M. Anscombe, "'Whatever Has a Beginning of Existence Must Have a Cause': Hume's Argument Exposed", in her collection *From Parmenides to Wittgenstein* (Minneapolis: University of Minnesota Press, 1981), and "Times, Beginnings, and Causes", in her collection *Metaphysics and the Philosophy of Mind* (Minneapolis: University of Minnesota Press, 1981). I discuss and defend Anscombe's argument in *Scholastic Metaphysics*, pp. 112–14.

[4] W. Norris Clarke, *The One and the Many: A Contemporary Thomistic Metaphysics* (Notre Dame, Ind.: University of Notre Dame Press, 2001), p. 182.

But this objection is not difficult to answer. It is true that we learn the principle of causality from our experience of the world, but it doesn't follow that we cannot apply it beyond the world of experience. For the reason we conclude that the things of our experience require causes is not *because* we experience them, but rather because they are merely potential until made actual. And the principle that no potential can actualize itself is completely general. Once we learn it we can apply it beyond the things we have actually experienced, and there is no reason to doubt that we can apply it as well beyond what we could experience. (Compare: We learn Euclidean geometry by looking at drawings of various geometrical figures, usually in black ink. But what we learn applies to geometrical figures of any color and indeed of no color at all. To think that the principle of causality applies only to things we can experience is like thinking that Euclidean geometry applies only to figures we can see.)

Russell on causation

But now the critic might appeal to science instead of philosophy. There are several ways in which it might seem that science has undermined the principle that what goes from potential to actual has a cause. For example, in his essay "On the Notion of Cause", Bertrand Russell argued that "the law of causality ... is a relic of a bygone age."[5] Physics, in Russell's view, shows that there is no such thing as causation. For physics describes the world in terms of differential equations describing relations between events, and these equations make no reference to causes. "In the motions of mutually gravitating bodies, there is nothing that can be called a cause, and nothing that can be called an effect; there is merely a formula."[6]

But there are a number of problems with this argument. For one thing, it would prove too much. If a thing's absence from the equations of physics suffices to show that it does not exist, then we will have to eliminate not only causation, but all sorts of other fundamental notions as well—including notions essential to our understanding of science, which Russell needs in order to get his argument off the ground. As Jonathan Schaffer writes:

[5] Bertrand Russell, "On the Notion of Cause", in *Russell on Metaphysics*, ed. Stephen Mumford (London: Routledge, 2003), p. 165.

[6] Ibid., pp. 173–74.

> In this respect, "event," "law," "cause," and "explanation" are in the same boat. These ... terms serve to allow a systematic understanding of science; they do not themselves appear in the equations. From this perspective, Russell's argument might seem akin to the foolish claim that math has eliminated the variable, because the term "variable" does not appear in the equations![7]

For another thing, it is not clear that physics really is free of causal notions. As the philosopher C.B. Martin has argued, the fundamental particles described by nuclear physics clearly have *dispositional* properties—that is, tendencies to produce certain effects when they interact in certain ways.[8]

Third, whether or not causal notions are present in physics, they are certainly present in other sciences. And that the other sciences cannot be reduced to physics is now fairly widely acknowledged in contemporary philosophy. This is true not only of the social sciences, but also of biology,[9] and even, some have argued, of chemistry.[10] But if the other sciences give us genuine knowledge of the world and they make reference to causation, then causation must be a real feature of the world. A related point is that the philosophical naturalism which provides the intellectual foundation of modern atheism is in contemporary philosophy typically articulated and defended in terms of causal notions. Naturalists routinely defend causal theories of knowledge, causal theories of perception, causal theories of meaning, and so forth. If causation is central to the articulation and defense of naturalism, though, then naturalists themselves must affirm its existence whether or not physics makes reference to it.

The most basic problem with Russell's argument, however, is that there is simply no reason to suppose that physics gives us anything close to an exhaustive description of reality in the first place. Indeed, there is ample reason to think that it does not. Ironically, Russell himself would in his later work give eloquent expression to the point:

[7]Jonathan Schaffer, "The Metaphysics of Causation", in *Stanford Encyclopedia of Philosophy*, Stanford University, 2007–, first published February 2, 2003, last modified July 5, 2016, http://plato.stanford.edu/entries/causation-metaphysics/.

[8]C.B. Martin, *The Mind in Nature* (Oxford: Clarendon Press, 2008), p. 50.

[9]John Dupré, *The Disorder of Things: Metaphysical Foundations of the Disunity of Science* (Cambridge, Mass.: Harvard University Press, 1993).

[10]J. van Brakel, *Philosophy of Chemistry* (Leuven: Leuven University Press, 2000), chap. 5.

> It is not always realised how exceedingly abstract is the information that theoretical physics has to give. It lays down certain fundamental equations which enable it to deal with the logical structure of events, while leaving it completely unknown what is the intrinsic character of the events that have the structure.... All that physics gives us is certain equations giving abstract properties of their changes. But as to what it is that changes, and what it changes from and to—as to this, physics is silent.[11]

Modern physics focuses its attention on those aspects of nature which can be described in the language of mathematics, abstracting away everything else. Its "mathematicizations", as Martin has called them, entail taking what Martin calls only a "partial consideration" of the phenomena studied.[12] That is why physics has achieved such breathtaking precision and predictive success. It simply does not allow into its characterizations of physical phenomena any features that would not be *susceptible* of mathematically precise description and prediction. If there are features of the world that can be captured by this method, then physics has a good shot at finding them. But by the same token, if there are features that cannot be captured by this method, physics is guaranteed *not* to find them. To reason from the predictive success of physics to the conclusion that physics gives us an exhaustive description of reality is therefore to commit a very crude fallacy. It is like reasoning from the success of metal detectors to the conclusion that there are no nonmetallic features of reality; or it is like a student's reasoning from the fact that he has taken only classes he knew he would do well in and gotten A's in each, to the conclusion that there is nothing of importance to be learned in other classes; or like a drunk's reasoning from his success in finding things in the light under the lamppost to the conclusion that his lost car keys cannot possibly be anywhere else.

Since the equations of physics are, by themselves, *mere* equations, *mere* abstractions, we know that there must be something more to the world than what they describe. There must be something that makes it the case that the world actually operates in accordance with the

[11] Bertrand Russell, *My Philosophical Development* (London: Unwin Paperbacks, 1985), p. 13.

[12] Martin, *Mind in Nature*, p. 74.

equations, rather than some other equations or no equations at all. There must be what the later Russell called an "intrinsic character" to the things related in the ways the equations describe. There must, as he put it, be *something* "that changes" and something "it changes from and to", something about which, as Russell admitted, "physics is silent." Now if what the equations describe really is *change*, then as I have argued, this change entails the actualization of a potential. But to actualize a potential just is to be a cause. That means that causality must be among the intrinsic features of the things physics describes.

Note that even if someone wanted to resist attributing real change and causality to mind-independent physical reality, he will still have to attribute them to our *experience* of physical reality, through which we acquire the observational and experimental evidence on which physics is based. One experience gives way to another; for example, the experience of setting up an experiment is followed by the experience of observing the results. That entails (for all Russell has shown) the actualization of a potential, and thus causation. Moreover, the later Russell himself acknowledged that we know the world described by physics only by virtue of the fact that our experiences are *causally related* to that world. It is only because the physical world has the *effects* on our sense organs that it does that we can know that there is something out there for us to study scientifically in the first place.

Thus, contra the early Russell, there is simply no way coherently to appeal to physics in support of the claim that causation is not a real feature of the world.

Newton on inertia

It is sometimes suggested that Newton's law of inertia—according to which a body in motion will remain in motion unless acted upon by outside forces—shows that change could occur without a cause. There's a lot that could be said in response to this objection, and I've addressed it in detail elsewhere.[13] But for present purposes the

[13] Edward Feser, "Motion in Aristotle, Newton, and Einstein", in *Aristotle on Method and Metaphysics*, ed. Edward Feser (Basingstoke: Palgrave Macmillan, 2013), pp. 236–58. Reprinted in Edward Feser, *Neo-Scholastic Essays* (South Bend, Ind.: St. Augustine's Press, 2015), pp. 3–27.

following points will suffice. First of all, what Newton's law describes are events ordered in time—for example, the motion of molecules as coffee swirls around in a cup. But as I have emphasized, the argument for the existence of God that we have been examining is ultimately concerned with the question of what actualizes a thing's potential to exist *at any particular moment* of time. It is concerned, for example, with what makes it the case at any moment that the components of a water molecule actually constitute a water molecule, specifically, in the first place, rather than some other kind of thing. Since Newton's law presupposes the existence of things like water molecules, it can hardly explain their existence.

Furthermore, as several philosophers have argued (and as I will argue in a later chapter), for something to follow any physical law—such as the law of inertia—is just for it to be the *kind of thing* that behaves in accordance with that law. That is to say, talk of a "law of nature" is really just a kind of shorthand for a description of the way a thing will tend to operate given its nature—given the form or pattern it possesses, which distinguishes it from other kinds of thing (to make use of some terminology introduced earlier). Thus, Newton's law is simply a shorthand description for the way a thing will behave given the nature or form it possesses. But what makes it the case that there actually are things that have that sort of nature or form rather than another? What makes it true that things are governed by the law of inertia rather than some alternative law? What actualizes that potential, specifically? Newtonian mechanics can hardly answer these sorts of questions. Again, it makes no sense to appeal to Newton's laws in order to explain why the things *presupposed by* Newton's laws exist.

Finally, there is the point made above that physics simply does not give anything like an exhaustive description of nature in the first place, but abstracts from it everything that cannot be "mathematicized" (to use Martin's expression). This includes the notions of actuality and potentiality, and thus causation as the Aristotelian understands it. Newton's laws of motion reflect this tendency, insofar as they provide a mathematical description of motion suitable for predictive purposes without bothering about the origins of motion or the intrinsic nature of that which moves. Indeed, that is arguably the whole point of the principle of inertia. As James Weisheipl writes:

> Rather than proving the principle, the mechanical and mathematical science of nature *assumes* it ... [and] the mathematical sciences must assume it, if they are to remain mathematical....
>
> The basis for the principle of inertia lies ... in the nature of mathematical abstraction. The mathematician must equate: a single quantity is of no use to him. In order to equate quantities he must assume the basic irrelevance or nullity of other factors, otherwise there can be no certainty in his equation. The factors which the mathematician considers irrelevant are ... motion, rest, constancy, and unaltered directivity; it is only the *change* of these factors which has quantitative value. Thus for the physicist it is not motion and its continuation which need to be explained but change and cessation of motion—for only these have equational value....
>
> In the early part of the seventeenth century physicists tried to find a physical cause to explain the movement [of the heavenly bodies]; Newton merely disregarded the question and looked for two quantities which could be equated. In Newtonian physics there is no question of a cause, but only of differential equations which are consistent and useful in describing phenomena....
>
> The nature of mathematical abstraction ... must leave out of consideration the qualitative and causal content of nature.... Since mathematical physics abstracts from all these factors, it can say nothing about them; it can neither affirm nor deny their reality.[14]

Hence, it is not merely that Newtonian mechanics *does* not refute the principle of causality, but that it *could* not—any more than (to make use once again of analogies appealed to earlier) the drunk who stays under the lamppost can say anything one way or another about what lies elsewhere, or any more than the student who takes only courses he knows he will do well in can say anything one way or the other about the subject matter of other courses, or any more than metal detectors can tell us anything one way or the other about the existence of wood, stone, and water. Objections to the principle of causality based on Newton's First Law of Motion therefore do not even rise to the level of being well-formulated, and the Aristotelian is within his rights to insist that however inertia is interpreted, it must be made compatible with the principle of causality, which captures deeper levels of reality than physics does or can.

[14]James A. Weisheipl, *Nature and Motion in the Middle Ages*, ed. William E. Carroll (Washington, D.C.: Catholic University of America Press, 1985), pp. 42, 47–48.

Einstein and change

It is sometimes claimed that change has been shown to be illusory by Einstein, or at least by the construction Hermann Minkowski famously put on relativity theory. On this four-dimensional block universe model, time is analogous to space, so that just as distant places are as actual as nearby places, so too are past and future moments as actual as the present moment. Hence, there is (so the argument goes) no actualization of potential. Our conscious experience of the world presents it *as if* it were changing—as if the present moment receded into the past and gave way to the future—but in reality there is no change. *Objectively* speaking, the past and the future exist in just the same way that the present does.

Now, such claims are controversial, even among physicists, but this is a controversy that need not be settled for present purposes.[15] For even if we supposed for the sake of argument that change does not occur in the objective physical world, it would not follow that the principle that *whatever goes from potential to actual has a cause* has no application, for two reasons.

First, physics, including relativity theory, rests on the empirical evidence of observation and experiment, which involves scientists having certain experiences. This is in turn a matter of an event of formulating a prediction being followed by the event of performing an observation to test the prediction; of moving from a state of ignorance to a state of knowledge; and so forth. But all of this involves change. Hence, if there is no change, then there is no such thing as having the experiences which provide the empirical evidence for any scientific theory in the name of which someone might take the position that there is no such thing as change. Thus, as philosopher of science Richard Healey has pointed out, the view that physics shows that all change is an illusion is incoherent.[16] The most that could coherently be claimed is that change exists only in the mind but not in mind-independent reality. What *cannot* be coherently claimed is that there is no change *at all*. But if change exists at least in the mind, then there is at least some actualization of potential, and that is all that

[15] See Lee Smolin, *Time Reborn* (New York: Houghton Mifflin Harcourt, 2013).

[16] Richard Healey, "Can Physics Coherently Deny the Reality of Time?", in *Time, Reality, and Experience*, ed. Craig Callender (Cambridge: Cambridge University Press, 2002), pp. 293–316.

is needed for the Aristotelian argument for God's existence to get off the ground.

Second, even if change *didn't* exist in the physical world, in the mind, or anywhere else, it still wouldn't follow that the *actualization of potential* didn't exist anywhere. For as I have argued, it is not just a thing's undergoing *change* that involves the actualization of potential, but *its very existence at any moment* that involves the actualization of potential. Hence, even if there is no real change or actualization of potential *within* an Einsteinian four-dimensional block universe, the sheer existence of that universe as a whole—in a single, timeless moment, as it were—*would* involve the actualization of potential and thus an actualizer distinct from the world itself. There would need to be a cause of *that* sort of world's being actual rather than some other sort of world's being actual. Similarly, even if there were no change even within the human mind, there would still need to be a cause of the mind's being actual at all.

So, like Newton's law of inertia, relativity in no way undermines the principle that *whatever goes from potential to actual has a cause.* The most it does is to affect *how* we apply this principle, but not *whether* we need to apply it.[17]

Quantum mechanics and causality

The same must be said in response to objections to the principle of causality that appeal to quantum mechanics. There are at least three objections of this sort. The first is that the nondeterministic character of quantum systems is incompatible with the principle of causality. The second is that the Bell inequalities show that there are correlations without a causal explanation.[18] The third is that quantum field theories show that particles can come into existence and go out of existence at random.

As to the objection from indeterminism, it is sometimes pointed out in response that the de Broglie-Bohm hidden variable interpretation

[17] For more detailed discussion, see Edward Feser, "Actuality, Potentiality, and Relativity's Block Universe", in *Neo-Aristotelian Perspectives on Contemporary Science*, ed. William M.R. Simpson, Robert C. Koons, and Nicholas J. Teh (London: Routledge, forthcoming).

[18] The Bell inequalities, named for physicist John S. Bell, have to do with measurements made at distant locations between which there are correlations that appear not to have a common cause.

provides a way of seeing quantum systems as deterministic.[19] But from an Aristotelian point of view it is a mistake to suppose in the first place that causality entails determinism. For a cause to be sufficient to explain its effect, it is not necessary that it cause it in a deterministic way. It need only make the effect intelligible. And that condition is satisfied on a nondeterministic interpretation of quantum mechanics. As Robert Koons writes:

> According to the Copenhagen version of quantum mechanics, every transition of a system has causal antecedents: the preceding quantum wave state, in the case of Schrödinger evolution, or the preceding quantum wave state plus the observation, in the case of wave packet collapse.[20]

As to the objection from the Bell inequalities, it is sometimes suggested that one could respond to it by denying that causal influences never travel faster than light,[21] or by allowing for either backward causation, or an absolute reference frame, or positing a law to the effect that the correlations in question take place.[22] As to the objection that particles can come into or go out of existence at random in a quantum vacuum, Alexander Pruss suggests that here too one might propose a hidden variable theory, or, alternatively, propose that the system described by the laws of quantum field theory is what causes the events in question, albeit indeterministically.[23]

Of course, all such proposals raise questions, though the interpretation of quantum mechanics is a notoriously vexed issue in any event. But that brings us to the deeper point, which is the one made above in response to the objection from Newton's law of inertia. As Weisheipl wrote, "The nature of mathematical abstraction ... must leave out of consideration the qualitative and causal content of nature.... Since

[19] Named for physicists Louis de Broglie and David Bohm, the interpretation in question proposes that the appearance of indeterminism stems merely from our ignorance of some of the relevant causal factors.

[20] Robert C. Koons, *Realism Regained: An Exact Theory of Causation, Teleology, and the Mind* (Oxford: Oxford University Press, 2000), p. 114.

[21] Ibid.

[22] Alexander R. Pruss, *The Principle of Sufficient Reason: A Reassessment* (Cambridge: Cambridge University Press, 2006), pp. 166, 169.

[23] Ibid., pp. 169–70.

mathematical physics abstracts from all these factors, it can say nothing about them; it can neither affirm nor deny their reality."[24] This is as true of quantum mechanics as it is of Newtonian mechanics. What we have is what Martin calls a "partial consideration" of material reality by way of "mathematicization". As Russell acknowledges, physics leaves "the intrinsic character" of what it describes in terms of mathematical structure "completely unknown".[25]

Hence, that quantum theory fails to assign a cause to a phenomenon simply does not entail that there isn't one, since *even a completed* physical theory could not capture every aspect of the phenomena it describes in the first place. The absence of something in a representation of nature is not the same thing as a representation of its absence from nature. Its absence from the representation does not even make it *likely* that it is absent from nature, if we already know independently that the representation would leave it out even if it is there. Hence, if an artist represents a scene he is looking at in a black-and-white line drawing, the fact that there is no color in the drawing does not show that there is no color in the scene itself. The colorlessness of the image is an artifact of the artist's method, not of the phenomenon represented. Similarly, the "mathematicization" to which physics confines itself *already* by its nature leaves out potentiality and other notions essential to causality as the Aristotelian understands it. It is the *method* that drains causality out of the world, with quantum mechanics being something like a limiting case. The four-dimensional block universe interpretation of relativity is another limiting case, entailing as it does a picture of the world from which change and thus potentiality are absent. In both cases we have physical theories which tell us, not whether causality exists in the world itself, but what sort of representation of the world we get when we consistently abstract from causal notions. To draw philosophical conclusions about causality from such theories is to mistake abstractions for concrete realities. As with the objection to the principle of causality from inertia, then, the objection from quantum mechanics is not even well-formulated.

It is worth adding that there is even a sense in which quantum mechanics, if it has any implications for causality at all, if anything

[24] Weisheipl, *Nature and Motion in the Middle Ages*, p. 48.
[25] Russell, *My Philosophical Development*, p. 13.

points *toward* rather than away from the Aristotelian position. To see how, consider once more the analogy of the artist's black-and-white line drawing. Again, the drawing by itself does not give us evidence that there is no color in the scene represented, since we know that the artist's exclusive use of black-and-white materials would never capture the color even if it is there. However, his use of those materials could indicate that there *is* color in the scene represented, in the following way. We are familiar with line drawings which represent a contour by depicting it in black ink. The contour of a face, for example, might be portrayed by a set of black lines, as in a comic book. In what is called a "color hold", however, some contours in a finished piece of artwork are not represented in black ink, but only in the color that will be added to the black-and-white line drawing. The black-and-white line art might leave off the contour of one side of an object, for example, with the contour of that side being represented by the color that will be added to the line art. If one sees only the unfinished line art itself, from which the color is absent, one will not see this particular contour. He will accordingly not see that part of the object represented. He might, however, be able to infer from the contours that have been rendered in black that the rest of the object—the part that the colored artwork will portray—must be present in the scene represented. For instance, he might infer from the presence in the line art of several straight lines and shadows that what is being represented is a cube, and deduce where the edges of the cube that are not drawn in black ink would go. The viewer could mentally "fill in" what is missing from the artwork, and what the finished, colored artwork would have represented.

Now I have suggested that quantum mechanics and physical theories in general are like the black-and-white artwork, and physical theory together with Aristotelian metaphysical principles like the principle of causality is like the black-and-white artwork once it is colored. And there is a sense in which quantum theory might be understood as analogous to a piece of black-and-white artwork to which a "color hold" is going to be added—a piece of artwork whose lines do not represent, but nevertheless suggest, at least partially, the presence of causality in the reality that is being represented. In particular, as Werner Heisenberg suggested, quantum theory points to something like the Aristotelian notion of potentiality. Regarding

the "statistical expectations" that quantum theory associates with the behavior of an atom, Heisenberg wrote:

> One might perhaps call it an objective tendency or possibility, a "potentia" in the sense of Aristotelian philosophy. In fact, I believe that the language actually used by physicists when they speak about atomic events produces in their minds similar notions as the concept "potentia." So the physicists have gradually become accustomed to considering the electronic orbits, etc., not as reality but rather as a kind of "potentia."[26]

We might say that insofar as quantum theory—in its indeterminism, in the Bell inequalities, and in the notion of particles popping into existence in a quantum vacuum—portrays the actualization of potential without portraying something doing the actualizing, it approximates the notion of potentiality without actuality.[27] The four-dimensional block universe interpretation of relativity theory, meanwhile, approximates the notion of actuality without potentiality. Now, since causation involves the actualization of potential, any description which leaves out one or the other is going to leave out causation. In the case of the four-dimensional block universe, what is left out is any potential needing to be actualized; in the case of quantum theory, what is left out is anything to actualize the potential. In both cases what is missing is missing, not because it is absent from reality, but because it is bound to be absent from a consistently mathematicized description of reality.

Finally, as with objections to the principle of causality which appeal to inertia, objections which appeal to quantum mechanics are, ultimately, appeals to laws of physics. And as has been pointed out already, a law of physics is (the Aristotelian argues) a shorthand description for the way a thing will behave given the nature or form it possesses. Thus, to explain something in terms of the laws of physics is hardly an *alternative* to explaining it in terms of the actualization of a potential. For what makes it the case that there actually are things

[26] Werner Heisenberg, *Physics and Philosophy* (New York: HarperCollins, 2007), pp. 154–55. See also pp. 15, 27, 134.

[27] See Stanley F. Grove, "Quantum Theory and Aquinas's Doctrine on Matter" (PhD thesis, Catholic University of America, 2008).

that have the sort of nature or form in question rather than another? What makes it true that things are governed by the laws of quantum mechanics rather than some alternative laws? What actualizes that potential, specifically?

Hence, consider radioactive decay, which is usually regarded as indeterministic, and thus often claimed to pose a challenge to the principle of causality. Specifically, consider an example given by philosopher of science Phil Dowe:

> Suppose that we have an unstable lead atom, say Pb^{210}. Such an atom may decay, without outside interference, by α-decay into the mercury atom Hg^{206}. Suppose the probability that the atom will decay in the next minute is x. Then
>
> $$P(E \mid C) = x$$
>
> where C is the existence of the lead atom at a certain time t_1, and E is the production of the mercury atom within the minute immediately following t_1.[28]

Now, from an Aristotelian point of view, what is going on here is that Pb^{210} simply behaves, like all other natural objects do, according to its form or nature. Copper, given its form or nature, will conduct electricity; a tree, given its form or nature, will sink roots into the ground; a dog, given its form or nature, will tend to chase cats and squirrels. And Pb^{210} is the sort of thing which, given its form or nature, is such that there is a probability of x that it will decay in the next minute. The decay is not deterministic, but that does not entail that it is unintelligible. It is grounded in *what it is to be* Pb^{210} as opposed to being some other kind of thing—that is to say, it is grounded, again, in the nature or form of Pb^{210}. This is what in Aristotelian philosophy is called the "formal cause" of a thing. There is also a generating or "efficient cause"—namely, whatever it was that originally generated the Pb^{210} atom at some point in the past (whenever that was). And, more to the present point, there is a deeper efficient cause in *whatever it is that keeps the* Pb^{210} *atom in existence here and now.* That something exists here and now as a Pb^{210} atom, with its nondeterministic

[28] Phil Dowe, *Physical Causation* (Cambridge: Cambridge University Press, 2000), pp. 22–23.

tendency to decay—rather than as some other thing, and rather than not existing at all—itself presupposes the actualization of a potential. And that actualization must have a cause in something already actual. So, the appeal to the nondeterministic character of radioactive decay in no way eliminates from the picture causation requiring a purely actual actualizer. It merely illustrates how some causal situations are more complicated than others.[29]

[29] Readers familiar with Aristotelian-Thomistic philosophy of nature might note a parallel here with what Aquinas says about local motion (i.e., change with respect to location or place). Aquinas took the view that a substance can manifest certain dispositions in a "spontaneous" way in the sense that these manifestations simply follow from its nature or substantial form, and that a thing's natural tendencies vis-à-vis local motion would be an example. Such motions simply follow from the thing's substantial form and do not require a continuously conjoined external mover. Now, that is not, in Aquinas' view, to say that the motion in question does not have an efficient cause. But the efficient cause is just whatever generated the substance and thus gave it the substantial form that accounts (qua formal cause) for its natural local motion. (It is commonly but erroneously thought that medieval Aristotelians in general thought that all local motion *as such* required a continuously conjoined cause. In fact that was true only of *some* of these thinkers, not all of them. For detailed discussion of this issue, see Weisheipl's *Nature and Motion in the Middle Ages*, from which I borrow the language of "spontaneity".)

Now, Aquinas elaborated on this idea in conjunction with the thesis that the "natural place" toward which heavy objects are inclined to move is the center of the earth, and he supposed also that *projectile* motions *did* require a conjoined mover insofar as he regarded them as "violent" motions rather than natural ones. Both of these suppositions are scientifically outmoded, but the more general thesis summarized in the preceding paragraph is logically independent of them and can easily be disentangled from them. One can consistently affirm that (a) a substance will tend toward a certain kind of local motion simply because of its substantial form, while rejecting the claim that (b) this local motion involves movement toward a certain specific place, such as the center of the earth. Indeed, some contemporary Aristotelians have proposed that affirming (a) while rejecting (b) is the right way to think about *inertial* motion: Newton's principle of inertia, on this view, is a description of the way a physical object will tend to behave vis-à-vis local motion given its nature or substantial form. (See Feser, "Motion in Aristotle, Newton, and Einstein", for discussion of the relevant literature.)

The point for present purposes, though, is that the idea just described also provides a model—not necessarily the only model, but *a* model—for understanding what is going on metaphysically with phenomena like radioactive decay. We can say that the decay described in Dowe's example is "spontaneous" in something like the way Aquinas thought the natural local motion of a physical substance is "spontaneous". In particular, given the nature or substantial form of Pb^{210}, there is a probability of x that it will decay in the next minute. The probability is not unintelligible, but grounded in *what it is to be* Pb^{210}. The decay thus has a cause in the sense that (1) it has a *formal* cause in the nature or substantial form of the particular Pb^{210} atom, and (2) it has an *efficient* cause in whatever it was that originally generated that Pb^{210} atom.

Interestingly, elsewhere in his book, Dowe argues that Newton's first law should be interpreted as entailing, not that a body's uniform motion has no cause, but rather that its *inertia*,

Dowe makes a further point, which reinforces the conclusion that examples like that of Pb^{210} show merely that not all causality is deterministic, but not that there is no causality at all in radioactive decay:

> If I bring a bucket of Pb^{210} into the room, and you get radiation sickness, then doubtless I am responsible for your ailment. But in this type of case, I cannot be morally responsible for an action for which I am not causally responsible. Now the causal chain linking my action and your sickness involves a connection constituted by numerous connections like the one just described [in the passage quoted above]. Thus the insistence that C does not cause E on the grounds that there's no deterministic link entails that I am not morally responsible for your sickness. Which is sick.[30]

Dowe also points out that "scientists describe such cases of decay as instances of *production* of Hg^{206} ... [and] 'production' is a near-synonym for 'causation' ".[31] This sounds paradoxical only if we fallaciously conflate deterministic causality and causality as such.

Outdated science?

It is sometimes alleged that, even apart from considerations about inertia, relativity, and quantum mechanics, arguments of the sort I have been defending rest on outdated science. Sometimes this sort of objection takes the form of a sweeping assertion to the effect that Aristotelianism as a general worldview was refuted by modern science. Hence (it is concluded), an Aristotelian argument for God's existence is no more relevant today than Aristotelian astronomy is. The trouble with this sort of objection is that it is intellectually sloppy, running together issues that need to be kept distinct. "Aristotelianism", as a

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conceived of as a property of a body, is its cause (pp. 53–54). This dovetails with the analysis of inertial motion given by some contemporary Aristotelians, to which I alluded above. John Losee, in his book *Theories of Causality* (New Brunswick: Transaction Publishers, 2011), discusses Dowe's views and notes the parallel between what Dowe says about radioactive decay and what he says about inertia (p. 126). The parallel, I would say (using notions neither Dowe nor Losee appeal to), is this: in both cases, Dowe is describing the way a thing will "spontaneously" tend to behave given its nature or substantial form (albeit the manifestation of the tendency is probabilistic in the case of Pb^{210} but not in the case of inertial motion).

[30] Dowe, *Physical Causation*, p. 23.

[31] Ibid.

label for the system of thought that the early modern philosophers and scientists rebelled against, covers an enormous variety of philosophical, scientific, theological, and political ideas and arguments. It is true that certain specifically scientific theses associated with medieval Aristotelianism—such as geocentrism, the ancient theory of the elements, and the notion that objects have specific places toward which they naturally move—have been refuted by modern science. But it simply doesn't follow that *every* idea which might be characterized as "Aristotelian" has been refuted by modern science. For example, the thesis that change entails the actualization of a potential—which is a philosophical or metaphysical thesis rather than a scientific thesis—has in no way been refuted by modern science. On the contrary, since, as has already been pointed out, the very enterprise of science presupposes the existence of change (insofar as, for example, observation and experiment presuppose the transition from one perceptual experience to another), the Aristotelian would argue that any possible scientific theory thereby presupposes the actualization of potential. In a later chapter I will discuss in more detail the ways in which science rests on philosophical or metaphysical foundations which only the philosopher, and not the scientist, can rationally justify. It is upon these deeper and rationally more secure metaphysical foundations that the arguments for God's existence defended in this book rest, rather than on any claims that might in principle be upended by natural science.

Sometimes the objection in question instead takes the form of the claim that specific examples of the sort used in arguments like the one I have given rest on mistaken scientific assumptions. For example, I spoke in my informal presentation of the Aristotelian argument for God's existence of a desk holding up a coffee cup, where the desk can do so only because it is itself being held up by the floor. But someone familiar with physicist Arthur Eddington's book *The Nature of the Physical World* might conclude that the example is faulty. Eddington famously begins the book by contrasting the way a table is understood by common sense with the way it is described by science.[32] Common sense regards the table as a single extended,

[32] Sir Arthur Eddington, *The Nature of the Physical World* (Ann Arbor: University of Michigan Press, 1963), pp. xi–xiv.

substantial object. Physics describes it as a cloud of particles in mostly empty space. When an object rests on the table, the reason it does not fall through this cloud of particles is that the particles continuously hit against the underside of the object and thereby maintain it at a steady level. But the object itself is also essentially a cloud of particles, which hit against the table. Hence (the objection might go), the commonsense picture of a floor holding up a desk which holds up a coffee cup just doesn't get the scientific details right, so that an argument which appeals to such commonsense examples is poorly grounded.

But despite its faux air of scientific sophistication, this sort of objection is really quite silly. One problem with it is that it supposes that the commonsense picture of the world and the description given by physics are in competition, as if one cannot accept both and has to choose between them. And that supposition is controversial at best.[33] That a floor, a desk, and a cup are each made of particles that hit against each other simply does not entail that it is not really true after all that the floor holds up the desk and the desk holds up the coffee cup. By themselves and without further argumentation, the sorts of details Eddington describes merely give us the mechanism by which the floor holds up the desk and the desk the coffee cup.

Notice also how selectively this sort of objection is raised. When an engineer makes claims about how thick a concrete foundation will have to be in order to support a building, or a medical doctor explains how a herniated disk is unable adequately to support the spinal column, no one raises quibbles from particle physics to the effect that what is really going on is that the particles making up the concrete and the building, or the particles making up the disk and vertebrae, are really hitting against one another as they travel through space that is mostly empty. No one alleges on this basis that engineering and medicine rest on outdated science. It is understood that these details from physics are irrelevant to the points the engineer and the doctor are making, and thus can be safely ignored for their particular purposes. But then it is sheer special pleading to pretend that the absence of such details from an example to which an argument for

[33] See L. Susan Stebbing, *Philosophy and the Physicists* (New York: Dover, 1958), and Amie L. Thomasson, *Ordinary Objects* (Oxford: Oxford University Press, 2007), chap. 8.

God's existence appeals shows that the argument is thereby somehow suspect from a scientific point of view.

But there is a deeper problem with the sort of objection under consideration. Even if there *were* some conflict between modern physics and the commonsense description of the desk holding up the cup or the chain holding up the lamp, this simply wouldn't in any way undermine the Aristotelian argument for God's existence. For the specific scientific details of the examples are completely irrelevant to the point the examples were being used to make. The point was to introduce notions such as the actualization of a potential and the distinction between a hierarchical causal series and a linear causal series. And these notions have application whether we think in terms of desks holding up cups, or in terms of clouds of particles hitting against one another, or in some other terms altogether. The specific scientific details will affect only *how* we apply these notions, but not *whether* we need to apply them.

Here again we see how selectively accusations of faulty science are made by critics of arguments for God's existence. When a physicist illustrates a point by asking us to imagine what we would experience if we fell into a black hole or rode on a beam of light, no one thinks it clever to respond that photons are too small to sit on or that we would be ripped apart by gravity before we made it into the black hole. Everyone knows that such objections would be pedantic and would entirely miss the point the physicist is trying to make. But to object to examples like the cup holding up the table on the grounds that this ignores the way the situation looks from the point of view of particle physics is no less pedantic or point-missing, and would remain so even if there *were* a conflict on this issue between physics and common sense.

Are hierarchical causal series real?

A critic might still try to raise one further objection from science. I have said that any stage in a linear series of causes and effects that extends through time presupposes a more fundamental hierarchical causal series whose members all exist at that particular moment of time. But are there really any causes and effects that exist simultaneously in this way? To be sure, in everyday contexts we often speak

as if there were. We might say, for example, that when one pushes a stone with a stick, the motion of the stick and that of the stone are simultaneous. But isn't this true only in a loose sense? Wouldn't measurement with precision instruments reveal a slight time lag between the movement of the stick and that of the stone? Or to take the example I used earlier, wouldn't there also be a slight time lag between the motion of the particles that make up the desk and the motion of the cup the desk holds up, so that the cup's being held at a certain level isn't exactly simultaneous with what is going on in the desk? Moreover, doesn't relativity theory cast doubt on the whole idea of simultaneity anyway?

The first of several points to make in response to all of this is that it is simply a mistake to think that being *simultaneous* entails being *instantaneous*. An event like someone's using a stick to move a stone is of course spread out through time rather than occurring in a single instant. But to say that the motion of the stick and that of the stone are simultaneous is not in the first place to say that they occur in a single instant. It is rather to say that the stick's moving the stone and the stone's being moved by the stick are part of the same one event, however long this event lasts. As Clarke (citing a different example) points out, "It indeed takes me time to push a chair across the room; but there is no time at all between my pushing the chair and the chair being pushed."[34]

Hume took the view that a cause and its effect are always separated in time, but as Stephen Mumford and Rani Lill Anjum argue, the standard examples used to support this claim are not convincing.[35] For instance, to say (as a follower of Hume would) that the motion of billiard ball A caused the later motion of billiard ball B is not quite right, for A's motion could have been stopped before A had any causal influence on B, and B's motion may or may not continue regardless of the continued presence of A. It is only at the point of impact that there is really any causation going on vis-à-vis A and B. But ball A's impacting B and B's being impacted by A are not temporally separated. They are just the same event. Neither is it quite

[34] Clarke, *One and the Many*, p. 192.

[35] Stephen Mumford and Rani Lill Anjum, *Getting Causes from Powers* (Oxford: Oxford University Press, 2011), chap. 5.

right to speak (as a Humean would) of *the throwing of a brick* causing *the breaking of glass*. It is rather the brick's pushing into the glass that is the immediate cause and the glass' giving way that is the effect, and these (unlike *the throwing of the brick* and *the breaking of the glass*) are not temporally separated but rather parts of one and the same event. Of course, the motion of billiard ball A and the throwing of the brick are causally relevant, and there is a perfectly legitimate sense in which we can speak of them as causes of the effects in question. But what they are not are the *immediate* causes of these effects, and *immediate* causes are always simultaneous with their effects.

But (it might be objected) would this not make all the causes and effects in a causal chain simultaneous, which would have the absurd implication that there are no causal chains extended through time? No. For one thing, remember that "simultaneous" does not entail "instantaneous". The single event in which a cause generates its effect can take place over the course of seconds, minutes, even hours or much longer. (Think of a potter molding a vase, a cube of sugar dissolving in water, or a heater warming a room.) For another, as Mumford and Anjum note, we must "[distinguish] causal episodes that are a part of a single process from causal processes that are enabled by powers instantiated in earlier causal processes".[36] Consider, to borrow their example: a cube of sugar being dissolved in tea, followed ten minutes later by the tea being drunk, which is then followed in turn by the tea's being converted into energy after it reaches the stomach. Each of these three events is a causal process, but they are not themselves related causally *in the sense* in which causation occurs *within* each event. That is to say, the sugar dissolving in the tea is one causal process, but it does not in turn cause the drinking of the tea. Rather, it results in a set of conditions, which ten minutes later play a role in the separate causal process of the tea's being drunk. Nor does the drinking of the tea cause the conversion of the tea into energy. Rather, it is one causal process which sets up the conditions for the other (even if in this case there is a partial temporal overlap between the two processes). What we don't have is one process causing another which causes another *in the sense* in which (say) the water and molecular structure of the sugar cube

[36] Ibid., p. 125.

cause dissolution. In that latter process the cause and effect are simultaneous. But since the tea's dissolving is not in the same sense a cause of the drinking of the tea, there is no question of simultaneity and thus no question of this long series of events (sugar dissolving, tea being drunk, tea converted to energy) collapsing into one big simultaneous causal event.

Again, though, it might still be objected: Hasn't Einstein refuted the claim that causes and effects are simultaneous, insofar as special relativity holds that whether two spatially separated events are simultaneous is relative to the observer's frame of reference? No, because the cases we have been considering are precisely those in which an effect and its immediate cause are part of the *same* event rather than distinct events, and the examples we have been appealing to involve causes and effects occupying the *same* spatial location rather than separate locations. So, relativity is irrelevant.[37]

In any case, as I emphasized above, while the analysis of change leads us to the distinction between actuality and potentiality, that distinction has application not only to the changes things undergo through time, but also to their very existence at any moment of time. So, questions about the duration of the events in which change occurs and about whether any such events are simultaneous are not really to the point. We could ignore all that and just focus on the sheer existence of something at any instant, such as the existence of the water of our earlier example. For even its very existence—the fact that its atoms constitute water rather than discrete quantities of oxygen and hydrogen—involves the actualization of a potential and thus requires something to do the actualizing.

I also noted that what makes such a causal series hierarchical rather than linear is not simultaneity per se, but rather the fact that all the members in such a series other than the first have their causal power in a *derivative* or *instrumental* rather than inherent or "built-in" way. This, you will recall, is why linear series of causes can in principle extend backward to infinity, while hierarchical series of causes cannot. Since each member of a linear series has its causal power inherently rather than derivatively, there is no need to trace any member's action back to a first member, which imparts to it its power to

[37] Ibid., p. 121.

act.[38] Hence, such a series need not have a beginning. By contrast, a hierarchical series is hierarchical precisely insofar as each member other than the first can act only insofar as its power to act is imparted to it from outside. If D is actualized by C only insofar as C is in turn being actualized by B and B in turn by A, then until we get to something which can actualize everything else in the series without having to be actualized itself—that is to say, to something which can impart causal power without having to derive it—then we will not really have explained anything. We will just keep passing the explanatory buck. A first actualizer who is the source of the actualizing power of the others is a precondition of there being a hierarchical series in the first place. A hierarchical series without such a first member would be like an instrument that is not the instrument *of* anything, a series of causes which have *derivative* causal power without anything *from which to derive it.*

As this indicates (and as I also noted earlier), what is meant by a "first" cause in this context is not merely "the cause that comes before the second, third, fourth, and so on", or "the one which happens to be at the head of the queue". Rather, a "first cause" is one having *un*derived or "primary" causal power, in contrast to those which have their causal power in only a derivative or "secondary" way. Thus, even if for the sake of argument we allowed that there could be an infinitely long hierarchical series—D actualized by C, which is in turn actualized by B, which is in turn actualized by A, and so on

[38] More precisely, each member of a given linear series has its causal power inherently *relative to the other members of that series.* But it doesn't have it inherently *full stop.* Consider Al, who has a son named Bob, who in turn has a son of his own named Chuck. Each member of this series has the power to beget a son inherently rather than in a derivative way, *in the sense* that Bob can beget Chuck whether or not Al is still around, just as Al was able to beget Bob whether or not his own father was still around, and just as Chuck will be able to have a son of his own whether or not either Al or Bob is still around. Their power to beget sons is not instrumental or derivative *in the way* that the power of a stick to move a stone is derivative. It is Bob who begets Chuck, not Al who begets Chuck using Bob as an instrument. But of course, there are other senses in which they do *not* have inherent causal power of this or any other sort. For one thing, none of them would have the power to beget sons had they not inherited that power from their parents. And most importantly for present purposes, neither Al nor Bob nor Chuck could beget or do anything else even for an instant unless the potential of the atoms that make up their bodies to constitute *bodies*, specifically, is actualized here and now, which in turn requires that the potential of the relevant subatomic particles to constitute atoms of *that* sort, specifically, is actualized here and now, and so forth. And of course, none of that is in Al's (or Bob's or Chuck's) power. Again, each stage in a linear series itself presupposes hierarchical series of causes, which do involve derivative rather than inherent causal power.

ad infinitum—there would still have to be a source of causal power *outside* the series to impart causal power to the whole. Again, even an infinitely long paintbrush handle could not move itself, since the wood out of which it is made has no "built-in" power of movement. The length of the handle is irrelevant. Or consider a mirror which reflects the image of a face present in another mirror, which in turn reflects the image of a face present in another, and so on ad infinitum. Even if we allowed that there could be such a series of mirrors, there would still have to be something *outside* this infinite series—the face itself—which could impart the content of the image without having to derive it. What there could not be is *only* mirror images and never any actual face. By the same token, even an infinitely long series of instrumental causes could not exhibit any causality at all unless there were something beyond the series whose instruments they were.

In this light, some objections sometimes raised against the idea that a hierarchical series of causes must have a first member can be seen to miss the point.[39] It is no good, for instance, to point to infinite mathematical series as counterexamples, because these do not involve instrumental and primary causes, or indeed any causality at all. Aristotelians do not in any event rule out *all* infinite series as such. They allow not only for infinite mathematical series, but, as has already been noted, generally agree that linear series of causes extending backward in time (which also do not involve instrumental and primary causes) could at least in principle lack a beginning. That is why it misses the point to raise against the argument of this chapter the objection that there are cosmological models favoring a universe, or at least a "multiverse", without a beginning.

It is also sometimes objected that the argument for a first member of a hierarchical series begs the question, insofar as characterizing other causes as instrumental itself presupposes that there is such a first member.[40] But there is no begging of the question. To characterize

[39] E.g., Graham Oppy, in *Arguing about Gods* (Cambridge: Cambridge University Press, 2006), pp. 101, 103, claims that Aquinas gives no reason to rule out an infinite series. But he simply ignores the crucial role that the notion of instrumental causality plays in Aquinas' argument.

[40] Cf. Jordan Howard Sobel, *Logic and Theism* (Cambridge: Cambridge University Press, 2004), p. 195. Sobel's objection to arguments like the one I have been defending is essentially that we will have no reason to think that things really do depend on hierarchical causal series unless we already accept the overall brand of theism that the argument is trying to establish.

something as an instrumental cause is merely to say that it derives its causal power from something else. There is nothing in that characterization that *presupposes* that a series of such causes cannot regress to infinity or that there must be some cause which has underived causal power. Even the skeptic can perfectly well understand the idea that a stick cannot move the stone under its own power, whether or not he goes on to agree that a regress of such moved movers must terminate in a first member.

Why an unmovable mover?

Even if it is granted that the Aristotelian proof takes us to an *unmoved* mover, a critic might object that it does not thereby get us to a mover that is *unmovable*. Or rather (to use the language I have said is less colloquial but more precise) the critic might suggest that even if there is a first actualizer, it need not be a *purely actual* actualizer, one devoid of potentiality. For why not suppose instead that it has potentialities which are simply not *in fact* being actualized, at least not insofar as it is functioning as the first actualizer in some hierarchical series of causes? Perhaps those potentialities are actualized at some other time, when it is not so functioning; or perhaps they never are. But as long as it has them, it will not be a *purely actual* actualizer, and thus will not have many of the attributes definitive of God—unity, immateriality, eternity, perfection, omnipotence, and so forth.

To see what is wrong with this objection, recall once again that though the argument begins by asking what explains the changes we observe in the world around us, it moves on to the question of what explains the *existence*, at any moment, of the things that undergo changes. So, the regress of actualizers that we are ultimately concerned with is a regress of the actualizers of the existence of things. The first actualizer in the series is "first", then, in the sense that it can actualize the existence of other things without its own existence having to be actualized. So, suppose this first actualizer had some potentiality that had to be actualized in order for it to exist. What actualizes *that* potential? Should we suppose that it is something other than the first actualizer that actualizes it? But in that case, the so-called first actualizer isn't really the *first* actualizer after all, contrary to hypothesis; it would be this further actualizer that is the first, or perhaps

some yet further actualizer that is the first. Should we say instead that the first actualizer has some purely actual *part* that actualizes the part that is merely potential? But in that case, it will be this purely actual part that is the *true* first actualizer, and the potential "part" will not really *be* a part of the first actualizer, but rather merely the first of its effects. Or should we say instead that the first actualizer's potential is actualized by some part of it that is *not* purely actual, but a mixture of actual and potential? But what actualizes the potentialities of *that* part? Some yet *further* part that is a mixture of potential and actual? But in that case we are back to a vicious regress and haven't reached a first actualizer after all.

So, there really is no sense to be made of a first actualizer of the existence of things which is not purely actual. If we acknowledge a *first* actualizer at all, we have to acknowledge thereby a *purely actual* actualizer. And thus we have to acknowledge an actualizer that has all the divine attributes which follow from being purely actual.

Still, a critic might object that anything that actualizes another thing must be undergoing change itself in the course of doing so, and thus must have potentialities which need to be actualized. Thus (so the objection might go) the very notion of a purely actual actualizer is incoherent. But one problem with this objection is that it simply begs the question. The Aristotelian argument for God's existence claims to prove that no potential could be actualized at all unless there is a first actualizer, which is purely actual and thus devoid of potentiality. So, given that the premises of this argument are true and that the conclusion follows logically from them, it follows that the conclusion is true and therefore coherent. Accordingly, it won't do simply to insist that the conclusion must be false; one has to show specifically either that one of the premises is false or that the conclusion does not follow. Otherwise, one ought to admit that the argument shows precisely that a purely actual actualizer really is possible (since actual) after all.

Another problem is that the objection seems to be grounded in what logicians call a fallacy of accident. In our experience, when a thing changes another thing, it undergoes change itself; for instance, when your arm moves a stick, that is because your arm is itself moving in the process. Things in our experience thus actualize other things precisely by going from potential to actual themselves. But it doesn't follow that absolutely *anything* that actualizes another thing *must* itself

go from potential to actual. That is like reasoning from the premise that every president of the United States *has in fact* been under seven feet tall to the conclusion that absolutely anyone who could ever become president *must* be under seven feet tall. That does not follow, because there is no essential connection between being president and being under seven feet tall, but only an accidental or contingent connection. And the connection would remain contingent even if the facts of biology make it extremely unlikely that there will ever be a president taller than seven feet. Similarly, even if the actualizers of our experience are themselves mixtures of actual and potential, it simply doesn't follow (for all the critic has shown) that there is an *essential*, as opposed to merely contingent, connection between being an actualizer and being a mixture of actual and potential.

Besides, it is hardly as if the notion of a purely actual actualizer were somehow *paradoxical*, as (say) the notion of an "immortal mortal" would be. An "immortal mortal" would be something that both dies and does not die, which is self-contradictory. But a purely actual actualizer is something that actualizes other things without itself being actualized, and there is no *self-contradiction* in that idea. Furthermore, the reason the actualizers of our experience are themselves being actualized even as they actualize other things is precisely because they are limited in the various ways entailed by being mixtures of actual and potential. For example, because an arm which moves a stick is actually at one point in space and only potentially at another, its potential to be at the other point in space has to be actualized by something else if it is to get the stick to that other point in space. But something which is pure actuality, devoid of all potentiality, would have no such limitations, and thus not need to be actualized itself as it is actualizing other things.

As I have said, in later chapters we will consider other objections which might be raised against any first cause argument for God's existence. But so far we have seen that the objections that might be raised against a specifically *Aristotelian* argument for a divine First Cause all fail.[41]

[41] For a more detailed exposition and defense of the Aristotelian theory of actuality and potentiality and the account of causation that it is grounded in it, see Feser, *Scholastic Metaphysics*, esp. chaps. 1 and 2.

2

The Neo-Platonic Proof

Informal statement of the argument: Stage 1

The things of our experience are made up of parts. Suppose you are sitting in a chair as you read this book. The chair is made up of parts, such as the chair legs, the screws that hold the legs to the frame of the chair, the seat and back of the chair, and a cushion and the fabric that covers it. The book itself is made up of parts, such as the cover, the pages, the glue that secures the pages to the cover, and the ink on the pages. You are yourself made up of parts, such as your arms and legs, eyeballs and ears, bones and muscles, and all the rest.

There is a sense in which, in each of these cases, the parts are less fundamental than the whole. After all, we understand what a leg or an eyeball is by reference to the whole organism whose leg or eyeball it is. A leg is something which helps an organism to move about, and an eyeball is something which allows the organism to have visual experiences of objects in its surrounding environment. The parts of the book and the chair are also to be understood by reference to the whole. A book cover is something that protects the pages of the book and indicates, via the words written on it, the author of the book and something of the book's contents. A chair leg is something which holds the chair up, a cushion something that functions to make the chair comfortable for the person sitting in it, and so forth.

Still, there is obviously also another sense in which each of these wholes is less fundamental than its parts. For the whole cannot exist unless the parts exist and are combined in the right way. For example, if there were no chair legs, no frame, or no seat, the chair would not exist. Neither would it exist if these parts were simply thrown in a pile or put together in the form of a table (say), rather than assembled

into a chair, specifically. Similarly, the book would not exist if the pages, cover, glue, and so forth did not exist, or if they existed but were scattered across a field. Your body would not exist if your arms, legs, eyes, ears, bones, muscles, and so forth were similarly scattered across the field or lumped together into a big pile, instead of being configured in the normal way.

So, the things of our experience are *composite*, or composed of parts. And a composite is less fundamental than its parts in the sense that its existence presupposes that its parts exist and are put together in the right way. You might think that this has essentially to do with there being some point in time at which the parts are not assembled into the whole, and then later on they are so assembled. And that is true in many cases. For example, the parts of a chair are made first and then assembled into a chair. But it is not true in every case. In the case of the human body, for example, it isn't that the arms, legs, eyes, and ears all come into existence first and are then assembled into a body. Rather, they all develop together as cells divide while you gestate within the womb. Moreover, a composite thing would be less fundamental than its parts in the relevant sense even if it had never come into existence but somehow had always existed. For instance, even if a certain chair had always existed, it would still be true that its existence presupposes that its parts exist and are put together in the right way. For that matter, it would also depend on its parts even if it had not existed always, and not been assembled over time either, but instead came into existence altogether and all at once.

So, a composite depends on its parts not merely (and indeed not necessarily always) in a temporal sense, but more fundamentally (and always) in an atemporal sense. At any particular moment, a composite thing's existence will presuppose that its parts exist and are put together in the right way at that moment, and this will be the case whether or not that composite thing has existed always, or only for a certain number of minutes, hours, days, or years, or only for an instant.

How do the parts of a composite come together to form the whole? It can't be the composite *itself* that causes this to happen. This is obvious enough when we're thinking in temporal terms. Chairs, for example, don't assemble themselves. Someone has to take the parts and put them together. But again, even if we think atemporally of the chair at any particular moment, the existence of the whole

depends on the existence and proper arrangement of the parts. And the chair as a whole can't be the *cause* of those parts existing, and being assembled in just the right way, at that moment. We would in that case have an explanatory vicious circle, insofar as the existence of the whole would depend on the existence and arrangement of the parts, and the existence and arrangement of the parts would depend on the existence of the whole. The chair would be lifting itself up by its own metaphysical bootstraps, as it were.

In fact, of course, the existence and arrangement of the chair's parts at any moment does not depend on the chair itself, but on myriad other factors. For example, the chair legs are at any moment at which the chair exists fastened to the frame of the chair by screws, and friction ensures that the screws stay in place. The legs and screws themselves exist at that moment because their respective molecules exist and are combined in certain specific ways, and the existence of the molecules themselves is explained in turn by the existence of the atoms that make *them* up and those atoms being combined in certain specific ways. Then there are other factors, such as the temperature in the room in which the chair sits being within the right range. Naturally, if it were sufficiently hot in the room, the metal that makes up the screws would melt, the wood of the chair would catch fire, and thus the chair itself could not hold together. That the room is instead at a lower temperature is thus part of what makes it possible for the chair to exist at any moment. All of these factors (and others too) have, at any moment, to be combined in just the right way in order for the parts of the chair to exist and be combined in just the right way, so that the chair itself can exist at that moment.

What is true of the chair is true of all the other composite things of our experience. At any moment at which they exist, their parts exist and are arranged in just the right way, and that is the case only because various other factors exist and are combined in just the right way at that moment. *Composite things have causes*, and this is true not merely in the sense that something brings them into being at some point in time, but also in the more fundamental sense that their continued existence at any particular moment of time depends, at that moment, on other things which exist at that moment.

Notice that whereas the chair's having being assembled by someone in a factory would involve a causal series of a *linear* sort, the chair's

continued existence at any moment being dependent on other factors existing and being combined in just the right way at that moment involves a causal series of a *hierarchical* sort (to make use of some jargon introduced in the previous chapter). This is indicated by the fact that the factors in question are simultaneous, all operating at the same moment; but remember that what is essential to the notion of a hierarchical causal series is not simultaneity per se but rather the way the causal power of members of the series is derivative (as the power of a stick to push a stone derives from the hand which pushes the stick). The chair exists only because its parts exist and are combined in the right way, the parts in turn can exist and be combined in the right way only insofar as certain other factors exist and are combined in just the right way, and so on. If the latter factors don't "hold together", neither will the chair hold together.

We started out by considering parts of everyday material objects which are themselves everyday material objects—chair legs, screws, paper, eyeballs, muscles, and so forth—but as the discussion has progressed, we have made reference to parts that are not *everyday* material objects (such as atoms) or which are not *objects* at all (such as temperature). And the parts of a thing can be more exotic still, as they are according to various metaphysical theories. For example, according to Aristotelian philosophers, all physical substances are composites of *form* and *matter*. It is by virtue of its form that a piece of copper (say) has its distinctive properties, such as malleability and the capacity to conduct electricity; it is by virtue of its very different form that a tree has its own distinctive properties and activities, such as the capacity to take in water and nutrients through roots; it is by virtue of yet another sort of form that an animal has its own distinctive properties and capacities, such as the ability to take in information through specialized sense organs; and so forth. Now, each of these kinds of form—the form of copper, the form of a tree, the form of an animal—is *universal* in the sense that it is one and the same form that exists in different individual things at different points in time and space. This piece of copper, that one, and a third one are all *copper* (rather than lead or gold) precisely because they have one and the same form; this tree and that one are both trees precisely because they have the same form, the form of a tree; this animal and that one are both animals because they both have the form of an

animal; and so forth. *Matter*, by contrast, is what ties this otherwise universal form down to a particular individual thing at a particular time and place.

Now there is a lot more to this analysis of physical objects, but whether one accepts it is irrelevant to the present argument.[1] The point is just that what has been said here about ordinary physical parts like chair legs and screws would be true also of metaphysical parts like form and matter, if they exist. That is to say, anything that is a composite of form and matter would have to have a cause which combines those parts, just as a chair requires some cause to combine the chair legs, screws, and so forth, in order for the chair to exist. For on the Aristotelian analysis, the form of something like copper or a tree is, all by itself and apart from matter, a mere abstraction rather than a concrete object. For the form to exist concretely requires that there be some matter to take that form on. But matter all by itself and apart from any form is, for the Aristotelian, nothing but the *potential* to be something. It is only *actually* some thing if it has the form of some particular kind of thing. So, though form and matter are different, there is a sense in which form depends on matter and matter depends on form. We would thus have an explanatory vicious circle if there were not something outside them which accounted for their combination.

Other metaphysical parts too might be identified. For example, Thomist philosophers hold that we can distinguish between the *essence* of a thing and its *existence*—that is, between *what* the thing is and the fact *that* it is. There is, for example, the essence or nature of a triangle—being a closed plane figure with three straight sides—and the existence of some particular triangle, which differs from the existence of some other particular triangle. Now, a thing exists at all only as a thing of some kind or other, so that there is no such thing as the existence of a triangle (to stick with that example) apart from the essence of the triangle. But the essence of a triangle all by itself and apart from any actual triangle which has that essence is a mere abstraction rather than a concrete object. So, some particular concrete

[1] For detailed exposition and defense of the Aristotelian analysis of material substance, see Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014), chap. 3.

triangle's essence has no reality apart from the triangle's existence. As with matter and form, then, the essence and existence of a thing depend on one another in such a way that if there were no cause outside of the thing that accounts for how the essence and existence are conjoined, we would have an explanatory vicious circle.

Here too for the moment nothing rides on whether one actually accepts this distinction or the metaphysical system of which it is a part (though we will have reason to revisit the Thomistic distinction between essence and existence in a later chapter).[2] The point, again, is just that the principle that *whatever is composite has a cause* is completely general, applying whatever the parts are of which a thing is composed.

Now, if some composite thing is caused by another composite thing and that by yet another in a hierarchical causal series, then for the reasons set out in the previous chapter, that series must have a first member. But the first member cannot itself be composite, for then it would require a cause of its own and thus not be *first*. So, it must be something *non*composite, something utterly *simple* in the sense of having no parts of any kind—no material parts, and no metaphysical parts like form and matter or essence and existence.

For any of the composite things of our experience to exist at all here and now, then, there must also exist here and now a noncomposite or utterly simple ultimate cause of their existence—a cause which, following the Neo-Platonic philosopher Plotinus, we might call *the One*.

Informal statement of the argument: Stage 2

What is the One like? For example, is it unique? Could there be more than one of the One? There could not be. For suppose there were two or more noncomposite or utterly simple causes of things. Then there would have to be some *feature* the possession of which distinguishes one of them from the other. Noncomposite or simple cause A would differ from noncomposite or simple cause B insofar as A has feature F, which B lacks, and B has feature G, which A

[2] For a detailed exposition and defense of the distinction, see ibid., chap. 4.

lacks. But in that case neither A nor B would really be simple or noncomposite after all. A would be a simple or noncomposite cause *plus* F, and B would be a simple or noncomposite cause *plus* G. F and G would be different *parts*, one of which each of these causes has and the other of which it lacks. But a simple or noncomposite cause has no parts. So, there can be no feature one such cause has and the other lacks. So, there can be no way one such cause could differ from another, and so there just couldn't *be* more than one such cause. The One is "one", then, not just in the sense of being simple or noncomposite, but also in the sense of being unique. It is the *same* one simple or noncomposite cause to which all the composite things of our experience ultimately trace.

The One must be *changeless* or *immutable*. For to change entails gaining or losing some feature, and if the One could gain or lose some feature, it would not be simple or noncomposite. Rather, it would be a simple or noncomposite thing *plus* this feature, in which case the feature would be a *part*, and thus the One just wouldn't really *be* simple or noncomposite. If the One is changeless or immutable, then it is also *eternal* or outside time, since to be in time entails undergoing some change. It must also be eternal in the sense of neither coming into being nor passing away. For if it came into being, it would have a cause, which entails that it has parts which were combined at the time it was caused; and it has no parts. If it could pass away, then that would entail that it has parts it could be broken down into; and again, it has no parts.

Furthermore, as is noted by William Vallicella (who defends an argument similar to the argument of this chapter), "everything is either a mind, or a content in a mind, or a physical entity, or an abstract entity."[3] Now, the One cannot be an abstract entity, because abstract entities are causally inert. (For example, while a stone can break a window, the abstract pattern of being a stone cannot break a window, or do anything else for that matter.) But the One is the cause of the existence of composite things. Nor can the one be a physical or material entity, because material entities have parts which need to be combined in order for them to exist, and the One has no

[3] William F. Vallicella, *A Paradigm Theory of Existence: Onto-Theology Vindicated* (Dordrecht: Kluwer Academic Publishers, 2002), p. 255.

parts. They are for that reason capable of coming into existence and passing away, which, as I have just argued, the One is not. Nor can the One be a content in a mind—a thought, say—because a mental content depends on the mind whose content it is, and thus cannot be an ultimate cause of anything. But the One is the ultimate cause of things. So, to paraphrase Vallicella, "given that [the One] is neither abstract nor physical, what we must conclude is not that [it] is a mental content, but that [it] is either a mind, or more like a mind than anything else."[4]

Now, the One must be the cause of all things other than itself, for since it is unique, anything other than itself is composite, and we have already seen that anything that is composite must ultimately depend for its existence on the One. I have also argued that the One is itself uncaused, simple or noncomposite, unique, immutable, eternal, immaterial, and a mind or intellect. That much would already justify us in calling the One "God". But much more can be said. The One also has to be regarded as *purely actual* rather than a mixture of actuality and potentiality. Obviously it has to be at least *partially* actual, for the reasons set out in the previous chapter—namely, that nothing that is *merely* potential can do anything, and the One is doing something insofar as it is the cause of all things other than itself. But if it was less then purely actual, then it would be partially potential. In that case it would have parts—an actual part and a potential part—and it has no parts. So, again, it must be purely actual.

If the One is purely actual, though, and we add to our considerations the principle of proportionate causality appealed to in the previous chapter, then everything said there about the Unmoved Mover or purely actual actualizer of things will be true also of the One. We can thus add to the attributes already named, and judge the One to be also *perfect*, *omnipotent*, *fully good*, and *omniscient*. Indeed, the One and the Unmoved Mover are really identical. For both are purely actual, and as we saw in the previous chapter, there cannot even in principle be more than one thing that is purely actual. In arriving

[4] Ibid., p. 256. To be sure, Neo-Platonic philosophers like Plotinus located intellect in a *second* divine reality after the One. But one need not agree with all of the specific details of their position in order to embrace the general Neo-Platonic approach to arguing for the existence of God.

at the existence of the One, then, we have really just arrived at the existence of the Unmoved Mover from a different starting point. In the previous chapter, we started with the distinction between actuality and potentiality, and concluded that there must be something that is purely actual. In the present chapter, we started from the idea of things that are composed of parts, and concluded that there must be something which is simple or noncomposite. But it turns out that these are just different ways of thinking about one and the same thing.

That God, despite being unique and without parts, may be understood or conceived of in different ways is crucial to understanding what is wrong with an objection that might have occurred to some readers. One might ask, if the One is omnipotent, is an intellect, and so forth, doesn't that entail that it has parts? For aren't omnipotence, intellect, and the like *different* attributes, and thus different *parts* of the One? Part of the answer to this objection is to note that while the statement that "the One is omnipotent" doesn't *mean* the same thing as the statement that "the One is an intellect", it doesn't follow that they are not statements about the same one reality. The logician Gottlob Frege famously distinguished between the *sense* of an expression and its *reference*. The expression "the evening star" doesn't have the same sense as the expression "the morning star", but both expressions refer to one and the same thing—namely, the planet Venus. Similarly, "the One's omnipotence" and "the One's intellect" don't have the same sense, but they refer to the very same thing, to a single, simple, or noncomposite reality. The intellect, omnipotence, eternity, immateriality, and so forth of the One are really all one and the same thing, just *conceived of* or *described* in different ways.

Still, it might be objected: When we talk about a human being's intellect and power, these are not *merely* different ways of *conceiving or describing* things, but ways of conceiving or describing what are themselves *different things*. A human being's power is just a different feature from his intellect. So, how can they fail to be different attributes in the One? The answer is that if we were using expressions like "intellect" and "power" in exactly the same sense when we apply them to the One as the sense in which we use them when we apply them to human beings, then they would be different features. But precisely because the One is noncomposite and thus lacks distinct parts, we

cannot, or at any rate should not, apply these terms to the One in exactly the same sense. We should understand them instead in what Thomas Aquinas called an *analogical* sense.

The analogical use of terms is typically contrasted with the univocal use and the equivocal use. We use a term univocally in two contexts when we use it in the same sense in both contexts. For example, if I say that Rover is a dog and that Fido is a dog, I am using the term "dog" in a univocal way. We use a term equivocally in two contexts when we use it in one context in a sense that is completely different from the sense it has in the other. For example, if I say that the baseball player swung the bat and that there was a bat flying around the attic, I am using the term "bat" in an equivocal way. The analogical use of terms is a middle-ground sort of usage. When a term is used analogically in two contexts, the term is not used in exactly the same sense in both contexts, but the senses are not completely different either. For example, if I say that the wine is still good and that George is a good man, I am not using the term "good" in exactly the same sense (since the goodness of wine is a very different sort of thing than the goodness of a man), but the two uses are not completely different or unrelated either. The goodness of the one is *analogous* to the goodness of the other, even if they are not the same thing. Notice that the analogical use of terms (or at least the sort of analogical use we are concerned with here) is not the same as a metaphorical use. We are not speaking metaphorically either when we say that the wine is good or that George is good. In both cases we are still using the term *literally* even if not either univocally or equivocally.

When we say of God that he is powerful, or has intellect, or is good, then, we should (so Aquinas argues, rightly in my view) understand these terms analogically. We are saying that there is in God something *analogous* to what we call power in us, something *analogous* to what we call intellect in us, and something *analogous* to what we call goodness in us. These are not utterly unrelated to power, intellect, and goodness as they exist in us (the way that being a baseball bat is utterly unrelated to being the sort of bat that flies around the attic). But neither are God's power, intellect, and goodness exactly the same as what exists in us. In particular, what we call God's power, intellect, and goodness (as well as the other divine attributes) are all

ultimately *one and the same thing* looked at from different points of view, whereas what we call power, intellect, and goodness in us are not the same thing.

This is, of course, odd, but it should not be surprising nor in any way regarded as suspect. On the contrary, it is exactly what we should expect. A scientific analogy will help us to see why. Modern physics famously tells us that elementary particles exhibit properties not only of particles, but also of waves. This is very strange and difficult to understand, but we have good reason to accept it anyway. For one thing, the observational evidence together with rigorous scientific theorizing point in that direction. For another thing, the phenomena in question are very remote from everyday experience. To describe them we have to take concepts whose original application was to the material objects we see around us every day and stretch them very far, so as to apply them to microscopic phenomena that we do not observe. It is only to be expected that the conclusions we are thereby led to should be hard to grasp. We have excellent reasons to believe both *that* wave-particle duality is real and that we should not be able fully to understand *how* it works.

Now, when we reason to the existence of a purely actual actualizer of things or to an absolutely simple or noncomposite cause of their existence, we are also going very far beyond the world of everyday experience. Indeed, we are getting to *the most fundamental level of reality*, to a level even farther from experience than anything physics describes or can describe. Hence, to characterize it, we have to stretch our ordinary concepts and language to the absolute limit. It is hardly surprising if we should arrive at some conclusions that are very unusual and difficult to understand. On the contrary, it would be surprising if we did *not* arrive at such conclusions. So, we have compelling reasons to conclude not only *that there is* an absolutely simple or noncomposite purely actual actualizer of the existence of things—and that this ultimate cause is one, eternal, perfectly good, an intellect, omnipotent, and so forth—but also that we should find it difficult to *understand* such a thing. Reason itself thus tells us that there is a level of reality that reason can only partially comprehend.

Much more could be said and will be said when we get to the chapter on the divine attributes. But this much suffices to show that

to prove the existence of an absolutely simple or noncomposite cause of things is indeed to prove the existence of God.

A more formal statement of the argument

With the overall thrust of the reasoning of this second argument for God's existence having now been made clear, it will be useful to have a summary presented in a somewhat more formal way. It might be stated as follows:

1. The things of our experience are composite.
2. A composite exists at any moment only insofar as its parts are combined at that moment.
3. This composition of parts requires a concurrent cause.
4. So, any composite has a cause of its existence at any moment at which it exists.
5. So, each of the things of our experience has a cause at any moment at which it exists.
6. If the cause of a composite thing's existence at any moment is itself composite, then it will in turn require a cause of its own existence at that moment.
7. The regress of causes this entails is hierarchical in nature, and such a regress must have a first member.
8. Only something absolutely simple or noncomposite could be the first member of such a series.
9. So, the existence of each of the things of our experience presupposes an absolutely simple or noncomposite cause.
10. In order for there to be more than absolutely one simple or noncomposite cause, each would have to have some differentiating feature that the others lacked.
11. But for a cause to have such a feature would be for it to have parts, in which case it would not really be simple or noncomposite.
12. So, no absolutely simple or noncomposite cause can have such a differentiating feature.
13. So, there cannot be more than one absolutely simple or noncomposite cause.

14. If the absolutely simple or noncomposite cause were changeable, then it would have parts which it gains or loses—which, being simple or non-composite, it does not have.
15. So, the absolutely simple or noncomposite cause is changeless or immutable.
16. If the absolutely simple or noncomposite cause had a beginning or an end, it would have parts which could either be combined or broken apart.
17. So, since it has no such parts, the absolutely simple or noncomposite cause is beginningless and endless.
18. Whatever is immutable, beginningless, and endless is eternal.
19. So, the absolutely simple or noncomposite cause is eternal.
20. If something is caused, then it has parts which need to be combined.
21. So, the absolutely simple or noncomposite cause, since it has no parts, is uncaused.
22. Everything is either a mind, or a mental content, or a material entity, or an abstract entity.
23. An abstract entity is causally inert.
24. So, the absolutely simple or noncomposite cause, since it is not causally inert, is not an abstract entity.
25. A material entity has parts and is changeable.
26. So, the absolutely simple or noncomposite cause, since it is without parts and changeless, is not a material entity.
27. A mental content presupposes the existence of a mind, and so cannot be the ultimate cause of anything.
28. So, the absolutely simple or noncomposite cause, being the ultimate cause of things, cannot be a mental content.
29. So, the absolutely simple or noncomposite cause must be a mind.
30. Since the absolutely simple or noncomposite cause is unique, everything other than it is composite.
31. Every composite has the absolutely simple or noncomposite cause as its ultimate cause.
32. So, the absolutely simple or noncomposite cause is the ultimate cause of everything other than itself.
33. If the absolutely simple or noncomposite cause had potentialities as well as actualities, it would have parts.

34. So, since it has no parts, it must have no potentialities but be purely actual.
35. A purely actual cause must be perfect, omnipotent, fully good, and omniscient.
36. So, there exists a cause which is simple or noncomposite, unique, immutable, eternal, immaterial, a mind or intellect, the uncaused ultimate cause of everything other than itself, purely actual, perfect, omnipotent, fully good, and omniscient.
37. But for there to be such a cause is just what it is for God to exist.
38. So, God exists.

Some objections rebutted

Some of the objections a critic might think to raise against this argument are the same as those raised against the Aristotelian proof, to which I have already replied or will reply. For example, objections might be raised against the arguments given here for the claim that the simple or noncomposite cause of things would have to have the various divine attributes. As I have said, I am going to address the question of the divine attributes at length in a later chapter, and such objections will be addressed there. The point to emphasize for the moment is that what has been said so far suffices to show that it is no good lazily to object (as is often done) that even if there is a first cause of things, we have no reason to think it would be a divine cause. For we have just set out reasons to think it *must* be a divine cause. Hence, it will not do for the critic glibly to suggest that an ultimate cause of things need not be God.

Some might also object that the present argument assumes that the universe had a beginning, or is open to the retort "If everything has a cause, then what caused God?" We have already seen why these objections are completely without force when raised against the Aristotelian proof, and they have no more force when raised against the Neo-Platonic proof. For one thing, as should already be clear to anyone who has been reading carefully, the argument is simply not concerned in the first place with whether or not the universe had a beginning in time. The claim is *not* that the chain of

causes of composite things traces backward into the past until it terminates in a simple or noncomposite cause. Rather, the claim is that it traces *here and now* to a simple or noncomposite cause. Nor does the argument rest on the premise that "*everything* has a cause." What it says is that *whatever is composite* requires a cause. And the reason God does not have a cause is not that he is an arbitrary exception to a general rule, but rather that only what is in some way composite needs to have, or indeed could have, a cause. Something absolutely *simple* or *non*composite not only needs no cause but could not have had one. Nor is this point something defenders of the argument have come up with as a way to try to sidestep the "What caused God?" objection. It was *always* what the Neo-Platonic tradition had in mind from the beginning. As in the case of the Aristotelian proof, the "What caused God?" objection, far from being the devastating reply many atheists suppose, is in fact utterly incompetent, completely missing the point of the arguments at which it is directed.

The reader is advised, then, to review what was said in the previous chapter in reply to the various objections there considered, for many of the points made there are relevant here also. For example, some critics may appeal to Hume, or to quantum mechanics, in order to cast doubt on the premise that whatever is composite requires a cause. But these objections too are no better when raised against the Neo-Platonic proof than they were when raised against the Aristotelian proof.

But there are other potential objections which take aim at what is distinctive about the present argument. Whereas the Aristotelian proof reasons from the fact that some potentials are actualized to the existence of a purely actual actualizer, the Neo-Platonic proof reasons from the fact that some things are composite to the existence of an absolutely simple or noncomposite cause. But it might be suggested that there are alternative ways to account for the existence of composite things. For the argument assumes that for a composite thing to exist, its parts have to be unified by some *external* cause. But why assume this? Why not suppose instead that it is precisely some *part* of a composite thing that unifies its parts, rather than something external? Or why not suppose that the fact that a composite thing's parts are unified is just an irreducible fact about it?

But as Vallicella has argued, neither of these suggestions really makes any sense.[5] Start with the suggestion that the parts of a thing are unified by some further part. For instance, consider a thing composed of parts A and B. What makes it the case that A and B are united in such a way that the composite thing in question exists? The suggestion at hand would be that there is some further part, C, which accounts for A and B being united. But the problem is that this just pushes the problem back a stage, since we now need to ask what unites C together with A and B. If we posit yet another further part, D, in order to account for the unity of A, B, and C, then we will merely have pushed the problem back yet another stage. And of course the problem will just keep recurring for each further part we posit. We will not have solved the problem of explaining the unity of A and B at all, but rather just compounded the problem.

Suppose instead that we opt for the alternative suggestion, to the effect that a composite thing's parts A and B being unified in such a way that it exists is just an irreducible fact about the thing. What exactly does this claim amount to? Does it mean that the composite thing made up of A and B is *itself* the cause of A and B being unified in such a way that the composite thing exists? That would entail that the composite thing is both the *cause* of its parts A and B being unified and the *effect* of its parts A and B being unified—which is incoherent. As we saw above, nothing can be the cause of itself, lifting itself up by its own metaphysical bootstraps. Is the idea instead that a composite thing's parts A and B being unified in such a way that the thing exists has no cause at all, but is just a brute fact? In that case, the critic is not really offering an *alternative* explanation to the Neo-Platonic argument at all, but rather giving *no* explanation. Yet an alternative explanation is what he claimed to be offering.

Suppose the critic of the Neo-Platonic argument bites the bullet at this point and says: "OK, so I haven't actually offered an alternative explanation. I guess I'm really just suggesting that there is no explanation at all for why a composite exists." As Lloyd Gerson has pointed out, this is hardly a serious response to a Neo-Platonic argument for

[5] William F. Vallicella, "From Facts to God: An Onto-Cosmological Argument", *International Journal for Philosophy of Religion* 48 (2000): 157–81; see also Vallicella, *Paradigm Theory of Existence*, chap. 7. What I present here are just brief summaries of lines of argument Vallicella develops in much greater detail. I should also note that my terminology differs from his.

God's existence.[6] The defender of the argument can reasonably say: "What are you talking about? I *just gave you* an explanation—namely, that its parts are conjoined by an absolutely simple and noncomposite cause. And you have offered no non-question-begging reason to reject that explanation. So, it's silly to say 'Maybe there's no explanation'!"

Might the critic of the Neo-Platonic proof acknowledge that there is an explanation, and acknowledge that it must be a cause that is external to the composite thing itself (rather than being either the composite as a whole or some further part of the composite), but without having to agree that the cause is divine? In particular, could he not say that a composite thing's parts being combined in such a way that the thing exists can be explained scientifically? The idea here would be that we can explain why the composite thing's parts A and B are conjoined in terms of *laws of nature* (whether laws of atomic structure, or laws of molecular cohesion, or whatever).

But this proposal too does not provide a genuine alternative at all. For however we construe laws of nature—and we will consider the various possible accounts of what a law of nature is in a later chapter—any explanation in terms of laws of nature will inevitably just leave us with some further thing made up of parts whose composition requires an explanation, thus continuing rather than terminating the regress of causes. For instance, if we say of some composite thing composed of parts A and B that it is a law of nature that things of type A and things of type B will combine under such-and-such circumstances to form the whole, then we have to ask why things of type A and type B are governed by *that* particular law rather than some other. A and B as well as the law governing them will together constitute a kind of composite whose existence is just a further instance of the sort of thing for which the critic of the Neo-Platonic proof was supposed to be providing an alternative explanation.[7] There simply is no way

[6] Lloyd P. Gerson, *Plotinus* (London: Routledge, 1994), p. 13.

[7] This way of putting the point makes it sound as if laws of nature are something *extrinsic* to the things the laws govern, which is not how Aristotelian philosophers understand laws. As we will see in a later chapter, from an Aristotelian point of view, a law of nature is a shorthand description of the way a thing will tend to operate given its nature or substantial form, where its nature or substantial form is something *intrinsic* to it. But this is no help to the critic of the Neo-Platonic proof, since a thing's substantial form is, together with prime matter, one of two basic principles of which it is composed. Hence, on the Aristotelian view, the operation of a law of nature *presupposes* the combination of the basic metaphysical parts of the thing it governs. So it can hardly be what *explains* that combination.

to terminate this regress other than by positing something absolutely simple or noncomposite, and for the reasons given, this cannot be something less than divine.

As I have said before, in later chapters we will consider various further objections which might be raised against any first cause argument for God's existence. Suffice it for present purposes to note that the objections that might be raised against a specifically *Neo-Platonic* argument, like those raised against the Aristotelian proof, all fail.

3

The Augustinian Proof

Informal statement of the argument: Stage 1

We are surrounded by particular, individual objects. You take a particular, individual pool cue, and with it knock a particular, individual billiard ball across a particular, individual pool table, then pick up a particular, individual rack to arrange the balls so that a new particular, individual game can begin. But each of these particular things is an instance of an abstract, general pattern. The various pool cues leaning against the table are all instances of the same pattern, the pattern of being a pool cue; the cue ball, the eight ball, the solid red billiard ball, the red striped billiard ball, and all the others are instances of the same pattern—namely, the pattern of being a billiard ball; and so forth. They are also instances of even more abstract patterns, shared with even more kinds of things. Some of the billiard balls share the pattern *redness* in common with stop signs, fire engines, and strawberries; all of the billiard balls share the pattern *roundness* in common with basketballs, globes, and the moon; the billiard rack shares the pattern *triangularity* with pyramids, dinner bells, and dunce caps; and so on.

Such patterns are called *universals* by philosophers, and they are "abstract" in the sense that when we consider them, we abstract from or iguore the particular, individualizing features of the concrete objects that exhibit the patterns. For instance, when we consider *triangularity* as a general pattern, we abstract from or ignore the facts that this particular triangle is made of wood and that one of stone, that this one is green and that one orange, that this one is drawn on the page of a book and that one is metal, and focus instead on what is common to them all.

Universals like *triangularity*, *redness*, and *roundness* exist at least as objects of thought. After all, we can meaningfully talk about them,

and indeed we know certain things about them. We know, for example, that whatever is triangular will be three-sided, that (at least if it is Euclidean triangles we are talking about) its angles will always add up to the sum of two right angles, and so forth. But unlike a wooden billiard ball rack or dinner bell, you can't perceive triangularity through the five senses, can't pick it up and put it on the table, or in any other way interact with it the way you would interact with a material object. If it is an object of some sort, then, it is what philosophers would call an *abstract object*.

Universals are not the only apparent examples of abstract objects. A second would be what philosophers call *propositions*—statements about the world, always either true or false, which are distinct from the different sentences we might use to express them. "John is a bachelor" and "John is an unmarried man" are different sentences, but they express the same proposition. "Snow is white" and "Schnee ist weiss" are also different sentences—indeed, one is a sentence of English, the other a sentence of German—but they too express the same proposition—namely, the proposition that snow is white. When the mind entertains any thought at all, whether true or false, it is ultimately a proposition that it is entertaining, and not a sentence. That is why we can all entertain the very same thoughts despite our being separated by different languages and different times and places. When Socrates and Barack Obama think that snow is white, they are thinking *exactly the same thing*, despite the fact that one of them expresses this thought in Greek in the Athens of the fifth century B.C., and the other in English in twenty-first-century Washington, D.C.

Like universals, propositions exist at least as objects of thought. But also like universals, they are not *material* objects. If someone writes "Snow is white" on a marker board, you can see the sentence, but you cannot literally see the proposition it expresses. (After all, the same proposition is expressed by the written sentence "Schnee ist weiss", which looks very different from the sentence "Snow is white.") You can erase the sentence, but you cannot thereby destroy the proposition. (Even if we erased every instance of the English sentence "Snow is white", every instance of the German sentence "Schnee ist weiss", and every instance of every parallel sentence in every other language, the proposition that snow is white would still be true.) So, if a proposition is a kind of object, it too is an abstract object.

Then there are *numbers* and other mathematical entities. They too obviously exist at least as objects of thought, as we know from our grasp of mathematical truths and our carrying out of calculations. But like universals and propositions, numbers are in no obvious way material things. The written numeral "2" isn't the *number* 2 any more than the Roman numeral "II" is, or any more than the name "Barack Obama" is the same thing as the man Barack Obama. Numerals like "2" and "II" are just labels we use to talk about the number 2. Nor would erasing every instance of numerals like "2" and "II" that anyone has ever written somehow destroy the *number* 2. (It wouldn't suddenly make 2 + 2 = 4 false, for example.) So, like universals and propositions, numbers and other mathematical objects are *abstract* objects.

Finally, consider what philosophers call *possible worlds*. A possible world is a way that things could have been, at least in principle. In the actual world, Barack Obama won the 2012 U.S. presidential election, but it could have turned out instead that Mitt Romney won it. In the actual world, the planet Mars has two moons, but had things gone differently it could have had three or only one. In the actual world, there are galaxies like the Andromeda galaxy and the Milky Way, but had the laws of physics been somewhat different, no galaxies would have formed. In the actual world there are horses but no unicorns, but in principle unicorns could have existed alongside horses (or, for that matter, without horses). When we describe scenarios in which Romney won the election, or Mars has three moons, or there are no galaxies, or unicorns exist, we are describing different possible worlds. (Not everything is a possible world. For example, there is no possible world where 2 + 2 = 5 or where round squares exist. These notions are self-contradictory and therefore absolutely impossible. What worlds are possible, in the sense of "possible" in question here, is not constrained by the laws of physics—after all, even physicists entertain hypotheses about what things might have been like had the laws of physics been different—but it is constrained by the laws of logic.)

Possible worlds too are obviously objects of thought, as we know from the fact that we can entertain all these possibilities, wondering what would have followed had Romney won or Mars had three moons. But you can't literally visit a possible world, much less see or

otherwise perceive it. They too are commonly regarded by philosophers as abstract objects.

So, in some sense there are abstract objects such as universals, propositions, numbers and other mathematical objects, and possible worlds. But in *what* sense, exactly, do they exist? Are they *merely* objects of human thought—purely conventional entities, sheer constructs of our minds? Are they merely useful fictions? Or might they after all really be material things, but of some more exotic kind than the ones we've considered so far? (For example, might we identify universals or propositions with brain processes?) There are compelling reasons to think that none of these answers can be correct—to conclude instead that abstract objects of the sort we've been considering are real, and neither reducible to anything material nor sheer constructs of the human mind. This is a view known as *realism*. The standard alternative views are *nominalism*, which denies that abstract objects are real, and *conceptualism*, which allows that they are real but insists that they are wholly constructed by the human mind. The key arguments for realism and against nominalism and conceptualism can be summarized as follows:

1. *The "one over many" argument*: Universals like *triangularity* and *redness* are not reducible to any particular triangle or red thing, nor even to any collection of triangles or red things. For any particular triangle or red thing, or even the whole collection of these things, could go out of existence, and yet *triangularity* and *redness* could come to be exemplified once again in some new triangle or red thing. These universals also could be, and often are, exemplified even when no human mind is aware of this fact. Hence, *triangularity*, *redness*, and other universals are neither material things nor collections of material things, nor dependent on human minds for their existence.

2. *The argument from geometry*: In geometry we deal with perfect lines, perfect angles, perfect circles, and the like, and discover objective and necessary truths about them. For example, it is an objective and necessary truth that the angles of a Euclidean triangle add up to the sum of two right angles. We discovered this rather than invented it and couldn't change it if we wanted to. It was true before any human mind existed and would remain true even if every human being went out of existence. Since these truths are objective and

necessary, they cannot be mere constructs of our minds. Since they are necessary and unalterable truths, they would also remain true whatever happens in the material world, and even if the material world went out of existence. Furthermore, no material thing has the perfection that geometrical objects have. So, these truths do not depend on the material world either.

3. *The argument from mathematics in general*: Mathematical truths in general are necessary and unalterable, while the material world and the human mind are contingent and changing—for example, that $2 + 2 = 4$ was true long before anyone realized it, and would remain true even if every human being forgot about it or died out. It would also remain true whatever happens in the material universe, and even if the entire material universe went out of existence. Hence, the things these truths are truths about—numbers and other mathematical objects—cannot be either mere constructs of the human mind, or dependent on the material world. Moreover, the series of numbers is infinite, but there are only finitely many material things and only finitely many ideas within any human mind or collection of human minds. Hence, the series of numbers cannot be dependent for its existence on either human minds or the material world.

4. *The argument from the nature of propositions*: Propositions cannot depend for their existence either on the material world or on any human mind. For some propositions (e.g., mathematical propositions like $2 + 2 = 4$) are necessarily true, and thus would remain true if neither the material world nor any human mind existed. Even many propositions which are true only contingently would remain true in such a circumstance. For example, the proposition that *Caesar was assassinated on the Ides of March* would remain true even if the entire material world and every human mind went out of existence tomorrow. Even if neither the material world nor any human mind had ever existed in the first place, the proposition that *there is neither a material world nor any human mind* would have been true, in which case it would not be something either material or dependent on any human mind. And so forth.[1]

[1] The difficulties with identifying propositions with anything either material or mental go well beyond this, and are summarized by Alvin Plantinga in *Warrant and Proper Function* (Oxford: Oxford University Press, 1993), chap. 6.

5. *The argument from science*: Scientific laws and classifications, being general or universal in their application, necessarily make reference to universals; and science is in the business of discovering objective, mind-independent facts. Hence, to accept the results of science is to accept that there are universals that do not depend for their existence on the human mind. Science also makes use of mathematical formulations, and since (as noted above) mathematics concerns a realm of abstract objects, to accept the results of science thus commits one to accepting that there are such abstract objects.

6. *The argument from the nature of possible worlds*: Much of what is possible (not *all* of what is possible, to be sure, but much of it) does not depend either on the actual material world or on the human mind. For example, there are possible worlds in which the laws of physics are radically different from those that actually operate, including some with laws that would make it impossible for human beings to exist. Obviously such possibilities cannot depend on the actual material world (which, needless to say, is governed by the laws that actually hold) or the human mind. And before the actual material world or any human mind came into existence, it was at least possible for them to exist. This possibility could not then have depended on either the actual material world or the human mind, since neither yet existed. There are also possible worlds in which no human minds nor any material things of any sort exist—a world in which there are only angelic intellects, say—and the possibility of such a world could not depend on the material world nor any human mind.

These are direct arguments for realism. There are also indirect arguments, to the effect that the alternatives to realism cannot be right. Consider nominalism, which denies that there are universals, numbers, propositions, or possible worlds.[2] For example, where we think there are universals, the nominalist says, there are really only general names, words we apply to many things. Hence, there is, for instance, the general term "red", which we apply to various objects, but no such thing as *redness*. Of course, this raises the question *why* we apply the term "red" to just the things we do, and it is hard to see how there could be any plausible answer other than "because they

[2] Of course, one could take a nominalist position vis-à-vis some sorts of abstract objects and a realist position vis-à-vis other sorts.

all have *redness* in common", which brings us back to affirming the existence of universals after all. The nominalist might seek to avoid this by saying that the reason we label different things "red" is that they resemble each other, without specifying the respect in which they resemble each other. This is implausible on its face—isn't it obvious that they resemble each other with respect to their *redness*?—but there are other problems too.

7. *The vicious regress problem*: As Bertrand Russell noted, the resemblance to which the nominalist appeals is itself a universal.[3] A stop sign resembles a fire truck, which is why we call them both "red". Grass resembles the Incredible Hulk's skin, which is why we call them both "green". And so on. What we have, then, are multiple instances of one and the same universal—namely, *resemblance* itself. Now the nominalist might seek to avoid this consequence by saying that we only call all of these examples cases of "resemblance" because *they* resemble each other, without specifying the respect in which they resemble each other. But then the problem just crops up again at a higher level. These various cases of resemblance resemble other various cases of resemblance, so that we have a higher-order resemblance, which itself will be a universal. And if the nominalist tries to avoid *this* universal by once again applying his original strategy, he will be just faced with the same problem again at yet a higher level, ad infinitum.

8. *The "words are universals too" problem*: The nominalist claims that there are no universals like *redness*, just general terms like "red". Yet this claim seems obviously self-contradictory, since the term "red" is itself a universal. You utter the word "red", I utter the word "red", Socrates utters the word "red", and they are all obviously particular utterances of the *same* one word, which exists over and above our various utterances of it. (As philosophers usually put it, each utterance is a different *token* of the same word *type*.) Indeed, this is the only reason the nominalist proposal has whatever plausibility it has: that the same one word applies to many things might seem sufficient to capture (on a superficial analysis, anyway) our intuitive sense that there is something in common between them. But again, if it is the

[3] Bertrand Russell, *The Problems of Philosophy* (Amherst, N.Y.: Prometheus Books, 1988), chap. 9.

same one word, then since there are different utterances of it, we have just the sort of "one over many" situation the nominalist wants to avoid. To evade this result, the nominalist might propose that when you, I, and Socrates each say "red", we are *not* in fact uttering the same word at all, but only words that resemble each other. This would, of course, be absurd on its face. It would also entail that communication is impossible, since we would never be using the same words—indeed, you would never be using the same word more than once even when talking to *yourself*, but only words that resemble each other—in which case, what does the nominalist hope to accomplish by talking to us? Furthermore, the appeal to "resemblance" would open the door up again to the vicious regress problem.

In general, it is notoriously very difficult to defend nominalism in a way that doesn't surreptitiously bring in through the back door a commitment to universals or other abstract objects, in which case the view is self-undermining. For reasons such as this, conceptualism hopes to avoid realism not by denying that universals exist, but rather by denying that they have any existence independent of the human mind. It is an attempt at a middle way between realism and nominalism. But it too faces what are widely regarded as insuperable difficulties.

9. *The argument from the objectivity of concepts and knowledge*: When you and I entertain the concept of any universal—the concept of *triangularity*, say, or of *redness*—we are each entertaining *one and the same concept*, which refers to *one and the same universal*. It is not that you are entertaining your own private concept of *redness* and I am entertaining mine, with nothing in common between them. Similarly, when we each consider various propositions, we are entertaining the *same* propositions. For example, when you think about the Pythagorean theorem and I think about the Pythagorean theorem, we are each thinking about *one and the same truth*. It is not that you are thinking about your own personal Pythagorean theorem and I am thinking about mine (whatever that would mean). Furthermore, many of the universals and propositions we entertain are the same as those entertained by people long dead, and will be entertained by people who do not yet exist, long after we are dead. If the human race died out, and some new intelligent beings came into existence, they could come to entertain the same universals and propositions we did. So, universals and propositions are not

mere constructs of the human mind, but have some foundation outside the human mind.

Consider also that this must be the case in order for communication to be possible. Suppose that, as conceptualism implies, the universals and propositions you entertain were sheer constructs of your mind. Then it would be impossible for you and anyone else ever to communicate. For whenever you said something—"Snow is white", say—then the universals you refer to and propositions that you expressed would be things that existed only in your own mind, and would thus be inaccessible to anybody else. Your idea of snow would be entirely different from my idea of snow, and since your idea is the only one you would have any access to, and my idea is the only one I would have access to, we would never mean the same thing whenever we talked about snow, or about anything else for that matter. But this is absurd. We *are* able to communicate and grasp the same concepts and propositions. Indeed, we have to be able to do so even to agree or disagree about conceptualism itself. Hence, universals and propositions cannot be mere constructs of the human mind, but must have some foundation outside it.

10. *The argument from the incoherence of psychologism*: Arguments like the last are associated with the logician Gottlob Frege, who was concerned to uphold the scientific status of logic and mathematics against a doctrine known as "psychologism". Psychologism tends to reduce the laws of logic and mathematics to mere psychological principles governing the operation of the human mind.[4] On this view, logic and mathematics don't describe objective reality, but merely the way the structure of our minds leads us to think about reality. There are obvious affinities between conceptualism and this sort of view. When you add to it (as some relativists would) the suggestion that the way our minds are structured is determined by contingent and evolving biological, social, historical, and cultural circumstances, the result is a very radical form of relativism, on which all our concepts, as well as logic, mathematics, science, and so forth, are culturally conditioned and subject to revision, with no necessary connection to objective reality.

[4]See, for instance, Frege's essay "Thought", in *The Frege Reader*, ed. Michael Beaney (Oxford: Blackwell, 1997), pp. 325–45.

This is radical, and totally incoherent, as are psychologism and conceptualism generally. For if we say that our concepts, standards of logic, and the like are determined not by any correspondence to objective reality but rather by the effects on our minds of contingent forces of history, culture, and the like, or even by biological evolution, then we have to give some account of exactly how this works. We have to say precisely which biological and cultural forces were responsible, how they formed our minds, and so forth. We will also have to give arguments in defense of this account. But such an account will necessarily appeal to various universals (e.g., *Darwinian selection pressures*, *class interests*, *genetic mutations*, and *social trends*) and to scientific and mathematical principles governing the relevant processes; and defending it will require appeal to standards of logic. Yet these were the very things the view in question tells us have no objective validity, and (since they purportedly depend on our minds for their existence) did not exist before our minds did. Hence, this sort of view completely undermines itself.

Suppose instead that, following Kant, the conceptualist or advocate of psychologism takes the less radical position that though our concepts and standards of logic and mathematics reflect only the operations of our own minds and not objective reality, this is a *necessary* fact about ourselves, something that could not be changed by either biological or cultural evolution. Would this save the view from incoherence? Not at all. For again, the advocate of such a view is going to have to explain to us how he *knows* all this, and how our minds got that way in the first place. And if he appeals to concepts, logical standards, and so forth that he's just got done telling us have no connection to objective reality and depend entirely on our minds for their existence, then he's effectively undermined his own case. On the other hand, insofar as he claims that it is a necessary fact about our minds that we have the concepts, standards of logic, and so forth that we do, then he's thereby claiming to have knowledge of the objective nature of things—specifically, of the objective nature of the workings of our minds—of just the sort that was supposed to be ruled out by his theory. For to formulate and defend his claim, he needs to appeal to certain universals (like *mind*), standards of logic, and so forth; and again, his theory claims that these have no objective validity. So, he's caught in a dilemma: if he insists, as his theory must

lead him to, that our concepts, standards of logic, and so forth have no objective validity, then he cannot so much as defend his own position; if he claims that they do have validity, so as to justify his claim to know about the objective nature of our minds, then he's just contradicted his own view in the very act of defending it. Again, the view is simply incoherent.

So, *some* version of realism about abstract objects like universals, propositions, numbers and other mathematical objects, and possible worlds must be correct. But *which* version? There are three alternatives: *Platonic realism*, *Aristotelian realism*, and *Scholastic realism*. Let's consider each in turn.

The *Platonic* form of realism—named after Plato, who was the first to formulate a version of it—holds that if the abstract objects we have been discussing depend for their existence neither on the material world nor on the human mind, then they must exist in a "third realm" that is neither material nor mental. This is the famous realm of Platonic Forms, entities which exist outside time and space and which the things of our experience merely imperfectly "resemble" or "participate" in. The universal *triangularity*, for example, exists in this third realm as the Form of Triangle, and the triangles of our experience are things of the kind they are because they "participate" in this Platonic Form and "resemble" it, albeit only approximately. The universal *humanness* exists in the third realm as the Form of Human Being, and the human beings of our experience are what they are because they "participate" in and "resemble" *that* Form. And so on for every other universal. Numbers, propositions, and possible worlds are also, at least on some variations on this basic idea, to be thought of on the model of the Forms—as objects existing in a "third realm" outside the spatiotemporal world and outside any mind.

There are a number of well-known problems with this Platonic brand of realism. For example, Platonic Forms and other denizens of the "third realm" seem to be causally inert. We know that material triangles, such as a billiard rack or a dinner bell, can have effects on other things. For instance, a billiard rack will cause the billiard balls to be arranged in a certain shape, and a dinner bell when rung makes a sound we can hear. We also know that our concept of the universal *triangularity* can have effects on other things. For instance,

an architect gives the pyramidal structure he builds its characteristic shape by virtue of his having the concept of triangularity and applying it when drawing up the blueprints. But what would it be for *triangularity*, in the abstract and all by itself—existing, not in an actual material triangle and not in any mind, but somehow as an object in its own right—to cause something? How could it do so if it lacks causal powers of the sort we know material objects and minds to have? Yet if it has no causal powers, and thus no effects on anything, then it would follow that it has no effects on *us*. And in that case, how could we possibly even *know* about it? Furthermore, if it has no effect on anything, then it has no effect on individual material objects, like the triangular billiard ball rack or dinner bell. But in that case, how could it be that which *explains* why those things fit the particular pattern they do?

A second problem is that Platonic realism seems to regard a Form as something both universal—that is, instantiated in many things—and also existing as a particular, individual thing in its own right. This seems incoherent, and seems to lead to paradoxes. Take the Form of Man, for example. Individual men are men only because they "participate" in this Form, says the Platonic realist. But if the Form of Man is itself an individual object, doesn't that entail that there must be some other Form that *it* "participates" in and by reference to which it counts as the Form of Man specifically? Don't we have to posit a Super-Form of Man over and above the Form of Man, in which both individual men and the Form of Man itself all "participate"? Indeed, wouldn't we have to posit a Super-Super-Form of Man over and above that Super-Form, in which the Form of Man, the Super-Form, and individual men "participate"? We seem led into infinite regress, and absurdity.

This objection—known as the "Third Man" argument—was raised by Plato himself, and its force has been a matter of dispute for millennia. A more telling objection, though, is the following. Consider a universal like *animality*. Every individual animal is either rational (as human beings are) or nonrational (as all other animals are). But what about *animality* itself? Precisely because it is universal, it has to apply to both rational and nonrational animals. But it can't itself include both rationality and nonrationality, for these are contradictory. So, we have to say that inherently it entails neither rationality nor nonrationality. But no individual thing can be *neither* rational nor

nonrational; any existing thing has to be one or the other. Hence, the universal *animality* cannot be said to exist as an individual thing in its own right; that is to say, it cannot properly be thought of as a Platonic Form.

A third problem with Platonic realism is entailed by the fact that the view implies that the essences or natures of the things of our experience are not in the things themselves, but exist in the Platonic "third realm". The essence or nature of a tree, for example, is not to be looked for in the tree itself, but in the Form of Tree; the essence of a human being is not to be looked for in any human being but rather in the Form of Human Being; and so forth. Now, if *treeness* is not to be found in a tree, nor *humanness* in a human being, then it is hard to see how what we call a tree really exists *as a tree* or what we call a human being really exists *as a human being*. Indeed, the trees and human beings we see are said by Plato merely imperfectly to "resemble" something else—namely, the Forms. So, what we call a tree seems at the end of the day to be no more genuinely treelike than a statue or mirror image of a tree is; what we call a human being seems no more genuinely human than a statue or mirror image of a human being is; and so forth. But this is absurd.[5]

It is certainly absurd, anyway, from the point of view of the *Aristotelian* realist, who has independent reasons to regard a tree or a human being as a *substance*—something existing *in its own right* (rather than being a mere image or reflection or otherwise parasitic on something else), and having an *intrinsic* source of its properties and characteristic activities (as opposed to deriving them entirely from some extrinsic source).[6] Aristotelian realism therefore denies that universals exist in a "third realm" of Forms. How do they exist, then? Consider, once again, the example of the universal *animality*. In the world outside the mind, *animality* exists only in actual animals, and always inseparably tied to either rationality or nonrationality. Hence, there is animality in Socrates, but it is there inseparably tied to his rationality, and specifically to his humanness. And there is animality in Fido, but

[5] Cf. P. Coffey, *Epistemology, or The Theory of Knowledge: An Introduction to General Metaphysics*, 2 vols. (Gloucester, Mass.: Peter Smith, 1958), 1:292–97; and David S. Oderberg, *Real Essentialism* (London: Routledge, 2007), pp. 81–85.

[6] For the reasons, see the exposition and defense of the Aristotelian account of substance in chap. 3 of Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014).

it is there inseparably tied to nonrationality, and specifically to "dogness". *Animality* considered in *abstraction* from these things exists only in the mind. The senses observe this or that individual man, this or that individual dog; the intellect goes on to abstract away the particular, individualizing and differentiating features of each of these, and considers the *animality* in isolation, as a universal. This Aristotelian realist position is not nominalist, because it holds that universals exist. But neither is it conceptualist, because while it holds that universals *considered in abstraction from other features* exist only in the mind, it also holds that universals exist in the extramental things themselves (albeit always tied there to other features). The universals are abstracted *from these extramental things* by the mind, rather than being the free creations of the mind.

Aristotelian realists emphasize that abstraction is essentially a mental process, so that abstract objects are essentially tied to the mind. Hence, though *animality*, *triangularity*, *redness*, *humanness*, and so forth do exist in mind-independent reality, they do not exist there *as abstract objects*, but only as tied to concrete particular individuals. And though *animality*, *triangularity*, *redness*, *humanness*, and so forth can nevertheless exist as abstract objects, they do not so exist *in mind-independent reality*. There is no third Platonic alternative way for universals to exist—namely, as *both* abstract *and* mind-independent at the same time. As David Oderberg sums up the view:

> Consider what all squares have in common: there is something they literally share, namely squareness. But one might complain, "We never encounter squareness, only square things." To which the [Aristotelian] realist replies that we *do* encounter squareness all the time—*in* the square things. "But I mean we never encounter squareness *in the abstract*." To which the reply is that this is correct: we do never encounter squareness in the abstract, because squareness in the abstract is not something we ever *could* encounter—what would such an encounter be like? Rather, we do not encounter squareness in the abstract because squareness is something that *we* abstract—*from the square things*. In short, nothing abstract exists without abstraction. And abstraction is an *intellectual* process by which we recognize what is literally shared by a multiplicity of particular things.[7]

[7] Oderberg, *Real Essentialism*, p. 83 (emphasis in the original).

An Aristotelian realist analysis can also be given of at least some possible and necessary truths. For the Aristotelian, what is possible or necessary vis-à-vis a thing is determined by its essence, and its essence is (apart from the mind's abstraction of it) something that exists in the thing itself rather than in some Platonic "third realm". Hence, it is possible, for example, for the average man easily to hold his breath for ten seconds, but impossible for him to hold it for ten hours, and it is necessarily the case that if he dies, he cannot be brought back to life by natural means. These possibilities, impossibilities, and necessities are grounded in human nature, and when the mind abstracts the universal *humanness* from the individual men it encounters, it can deduce from consideration of it these and other possibilities, impossibilities, and necessities. It is also impossible for two men and two further men together to add up to twenty men, and necessary that they add up instead to four men. These truths are grounded in the natures not only of men but of every other thing too, and when the mind abstracts even more general mathematical features of things, it can deduce from them further mathematical truths.

However, there are universals, propositions, mathematical objects, necessities, and possibilities that the Aristotelian realist is bound to have a more difficult time dealing with. For example, suppose no material world or human minds had existed at all. This is surely possible. But it also would still have been possible in that circumstance for a material world and human minds to *come into* existence. What would ground *that* possibility? It cannot be grounded in the essence or nature of any material object, since by hypothesis there would in that case have been no material objects. Nor could it be grounded in the essence or nature of material objects at least as abstracted and grasped by a human mind, since by hypothesis there would in that case be no human minds either.

Or consider things which not only could have failed to exist, but in fact fail ever to exist—unicorns, centaurs, mermaids, and the like. It is at least possible for such things to exist, and *unicornity*, *centaur-ness*, *mermaid-ness*, and so forth are universals, even if they are uninstantiated. Now what grounds their possibility cannot be the essences or natures of actual unicorns, centaurs, and mermaids, since there have never been such things. Nor can their possibility be grounded in the human minds which entertain the ideas of these things, for

these things were all possible even before human minds entertained the ideas. But what, then, can ground the possibility of these "pure possibles" (as they are sometimes called)?

Consider also, and again, that there are propositions that would be true whether or not the material world or any human mind existed. For example, the proposition that *there is no material world nor any human mind in existence* would be true if the material world and human minds all went out of existence tomorrow, and would have been true if neither had come into existence in the first place. The proposition that *Caesar was assassinated on the Ides of March*—and every other proposition about historical events—would also remain true even if the material world and human minds all went out of existence tomorrow.

Then there are the necessary truths of mathematics and logic. These too would have been true whether or not any material world or human minds had ever existed, and these too would remain true even if the entire material world and all human minds went out of existence tomorrow. So, what grounds this necessity?

This brings us, at last, to *Scholastic* realism, which is essentially Aristotelian in spirit, but gives at least a nod to Platonic realism.[8] Like Aristotelian realism, Scholastic realism affirms that universals exist only either in the things that instantiate them, or in intellects which entertain them. It agrees that there is no Platonic "third realm" independent both of the material world and of all intellects. However, the Scholastic realist agrees with the Platonist that there must be some realm distinct both from the material world and from *human* and other finite intellects. In particular—and endorsing a thesis famously associated with Saint Augustine—it holds that universals, propositions, mathematical and logical truths, and necessities and possibilities exist in an *infinite, eternal, divine* intellect. If some form of realism must be true, then, but Platonic realism and Aristotelian realism are in various ways inadequate, then the only remaining version, Scholastic realism, must be correct. And since Scholastic realism entails that there is an infinite divine intellect, then there really must be such an intellect. In other words, God exists.

[8] Cf. John Peterson, *An Introduction to Scholastic Realism* (New York: Peter Lang Publishing, 1999).

Informal statement of the argument: Stage 2

That, anyway, is the basic thrust of what is sometimes called the "argument from eternal truths" for the existence of God, historically associated with Augustinian philosophy and defended also by thinkers like G. W. Leibniz. Let's make the reasoning of the argument more explicit.

We have seen why, contra nominalism and conceptualism, some form of realism vis-à-vis abstract objects like universals, propositions, numbers and other mathematical objects, and possible worlds must be true. Now, one implication of the arguments was that, whatever mode of existence these objects have, they do not (or at least a great many of them do not) depend on the material world. Material things are always particular. There's this particular triangle and that one, this particular red object and that one, and so on. But *triangularity* and *redness* are universal. At least some propositions would be true whether or not the material world exists, and this is true especially of logical and mathematical propositions. The material world is contingent, whereas some propositions, including propositions of mathematics and logic, are true necessarily. There are possibilities that would remain possibilities whether or not the material world existed. And so forth. So, these abstract objects must exist in one of the two other possible ways, either in some intellect or collection of intellects, or in a Platonic "third realm". But the notion of a "third realm" faces insuperable problems of its own, which means that these abstract objects must exist in an intellect or collection of intellects.

Now, it cannot be *human* intellects that they ultimately depend on for their existence, because human intellects are contingent. They come into being and pass away. At one time there were no human intellects, and it could happen that at some point in the future all human intellects will go out of existence. So, necessary truths, possibilities that would remain possibilities whether or not any human intellect ever existed, universals that could be instantiated even if no human being had ever existed, propositions that would have been true even if no human being existed, and so forth cannot depend on human intellects for their existence. Notice that, for the same reason, they cannot depend either on the intellects of contingent creatures *other* than human beings. Suppose there are

extraterrestrials with material bodies of some sort, perhaps bodies radically different from ours. Precisely because, like us, they come into being and pass away and could have failed to exist, what is true of the relationship between abstract objects and our minds would be true of the relationship between abstract objects and *their* minds too. Or suppose there are completely disembodied intellects—angels, who do *not* pass away like we do. Since they are nevertheless contingent (even an angel does not exist in an *absolutely* necessary way, but will only exist if God decides to create it), it follows that necessary truths, possible worlds which would remain possible whether or not any angel ever existed, universals which could be instantiated even if no angel ever existed, propositions which would be true even if no angel existed, and so forth cannot depend for their existence on angelic intellects either.

So, the only sort of intellect on which these abstract objects could ultimately depend for their existence would be an intellect which exists in an *absolutely necessary* way, an intellect which *could not possibly* have not existed. Now, could there be more than *one* such ultimate intellect? Might we not suppose that such-and-such possible worlds, necessary truths, universals, and so forth exist in necessarily existing intellect A, and another group of possible worlds, necessary truths, universals, and so forth exist in necessarily existing intellect B?

This cannot be right. Consider first that the abstract objects in question are not independent of one another in a way that would allow their *ultimate* ground to lie in distinct necessarily existing minds. Rather, they form an interlocking system.[9] Here are some of the ways in which that is the case. Suppose the traditional definition of a human being as a rational animal is correct. (Whether it is in fact correct is irrelevant for present purposes; it's just an illustration.) Then to have an adequate grasp of the universal *humanness* will require a grasp also of the universals *animality* and *rationality*. And grasping those will of course require a grasp of the further universals in terms of which they are to be defined. An adequate grasp of any one universal thus requires a grasp of a whole network of universals.

[9] This was a point emphasized by Leibniz. See the discussion of the relevant texts in Robert Merrihew Adams, *Leibniz: Determinist, Theist, Idealist* (Oxford: Oxford University Press, 1994), p. 181.

Consider also that grasp of these universals is necessary for a grasp of the propositions in which they feature. For example, one has to have a grasp of the universal *humanness* and of the universal *mortality* in order to grasp the proposition that *all men are mortal.* And every proposition is also logically related to every other one in various ways. For example, the proposition that *all men are mortal* and the proposition that *Socrates is a man* together logically entail the proposition that *Socrates is mortal.* The proposition that *all men are mortal* and the proposition that *cats are four-legged* do *not* together logically entail the proposition that *it is raining in Cleveland.* Any proposition will be either consistent with or inconsistent with any other. Any proposition can be combined with any other in various ways to yield compound propositions whose truth values are given by the truth tables familiar to students of logic. And so forth. Among these propositions will, of course, be propositions about what is necessary and what is possible, as well as propositions of a logical or mathematical sort.

Now, these logical relationships would hold whether or not the material world existed and whether or not any finite mind existed. So, there must be a necessarily existing intellect which grasps *all* of the logical relationships between *all* propositions (and thus *all* universals), including those about what is possible and what is necessary and about numbers and other mathematical objects. So, all of the abstract objects about which we have been speaking must exist in this intellect. Note also that the number of these propositions and logical relationships is infinite. (This is obvious just from the fact that the number of mathematical propositions is infinite. For example, for every number, there will be a true proposition and a false proposition about whether it is odd or even. And every other proposition will either be consistent or inconsistent with each of these propositions.) So, this necessarily existing intellect is one that grasps an *infinite* number of universals, propositions, possible worlds, and so forth. And there is an obvious sense in which such an intellect would be *omniscient.* It would be what Robert Adams calls "a *conceptually* omniscient being, a being that eternally understands all essences, possibilities, and necessary truths".[10]

[10] Ibid. (emphasis added).

So, the ultimate ground of the existence of the abstract objects we've been discussing would have to be a conceptually omniscient necessarily existing intellect, rather than a collection of intellects each of which knows less than "*all* essences, possibilities, and necessary truths". Still, a critic might ask, might there nevertheless be more than one such conceptually omniscient intellect? And might such an intellect nevertheless lack knowledge of some *contingent* truths, even though it knows all possible and necessary truths—thus making it omniscient only in a qualified sense? Furthermore, why should we suppose such an intellect would have attributes like omnipotence and perfect goodness?[11] It might appear, then, that to arrive at the existence of an omniscient intellect is not quite to arrive at the existence of God.

But such appearances would be misleading. Consider that an intellect that existed of absolute necessity would have to be *purely actual.* For suppose that its existence presupposes the actualization of some potential. In that case its existence would be contingent on such an actualization, in which case it *wouldn't* exist of absolute necessity. Now, we saw in chapter 1 that anything that is purely actual would have to be unique, would have to have all power, and would have to have perfect goodness. It would also, for reasons given there, have to be immutable, immaterial, incorporeal, and eternal. Hence, a necessarily existing omniscient intellect would have to have all of these attributes too. It would also have to know *all* truths, including contingent ones. For if it knew less than all of them, then it would have an unactualized potential—the potential to know the truths that it does not in fact know—and thus fail to be purely actual. So, it must be omniscient in an unqualified sense.[12]

So, realism about abstract objects entails the existence of a necessarily existing intellect which is one, omniscient, omnipotent, fully good, immutable, immaterial, incorporeal, and eternal. In short, it entails the existence of God.

An argument similar to the one I have been developing in this chapter has been put forward by philosopher Greg Welty, who

[11] See ibid., p. 180.

[12] Consider also that what is actual is a subset of what is possible. So, if an intellect knows all possible truths, it must know all actual truths as well.

suggests that there are six conditions an adequate theory of abstract objects must meet, and argues that what he calls "Theistic Conceptual Realism"—which is essentially what I have called Scholastic realism—best meets all of them.[13] Let's briefly consider Welty's approach. First, an adequate theory must account for the fact that abstract objects exhibit *objectivity* insofar as they have reality independent of human minds. Second, it must account for the fact that they exist in a *necessary* rather than merely contingent way. Third, it must account for their *intentionality*, by which Welty means that abstract objects represent the world in something like the way thoughts do. For example, the universal *triangularity* represents triangles; the proposition that *all men are mortal* represents the state of affairs of all men being mortal; possible worlds represent ways things might have been; and so forth.[14] Fourth, an adequate theory of abstract objects must be *relevant* to explaining why there are the necessary and possible truths that there are. Fifth, it must meet what Welty calls a *plenitude* condition insofar as it must affirm the existence of a sufficient *number* of abstract objects to account for everything their existence is supposed to account for. Finally, it must at the same time respect a condition of *simplicity* by not positing more kinds of entity than is necessary.

Now, the *objectivity* condition can be met only by a realist theory of abstract objects rather than a nominalist or conceptualist theory.[15] The *intentionality* condition points in the direction of an Aristotelian realist position, specifically, rather than a Platonic realist position, since it is easier to see how abstract objects could have representational content if they exist in an intellect than if they exist in a "third realm". The *simplicity* condition also points in the direction of Aristotelian realism rather than Platonic realism, since the former view requires us to posit only two realms—the realm of material objects and the realm of intellects—whereas the latter

[13] Greg Welty, "Theistic Conceptual Realism", in *Beyond the Control of God? Six Views on the Problem of God and Abstract Objects*, ed. Paul M. Gould (London: Bloomsbury, 2014), pp. 81–96.

[14] The abstract objects Welty himself focuses on are only propositions and possible worlds.

[15] Welty himself uses the term "conceptualism" more broadly than I have, in a way that includes Aristotelian realist theories. In other ways too, his terminology does not correspond exactly to mine. But the difference between our accounts is, I think, *merely* terminological rather than substantive.

requires a third. The *necessity*, *plenitude*, and *relevance* conditions, in turn, point in the direction of Scholastic realism rather than a brand of Aristotelian realism that does not appeal to the divine intellect. For human and other finite minds are contingent, and thus cannot account for the necessity of abstract objects. And since there are universals, propositions, possible worlds, mathematical truths, and so forth, which have never been entertained by any human mind, Aristotelian realism, unless taken in a Scholastic direction, cannot meet the plenitude condition.

Finally, the relevance condition points to Scholastic realism, specifically, in the following way. Again, there are abstract objects which cannot plausibly depend on human or other finite minds. Of course, Platonic realism can account for at least that much. But it is hard to see how possible worlds considered as the denizens of a Platonic "third realm" would have any relevance to what might happen in the world. Consider (to borrow an example from Welty) a drawing of Socrates pounding nails into wood. Suppose we allow that this at least *represents* the possibility of Socrates being a carpenter. Still, Welty suggests, "it makes little sense to think that a picture on a piece of paper is a truthmaker for certain modal statements about Socrates, such that Socrates *couldn't* have been a carpenter if that picture didn't exist."[16] But why, exactly, would a possible world in which Socrates is a carpenter, understood as an entity existing in a Platonic "third realm", be any more plausible a truthmaker than the picture? Even if (like the picture) the Platonic object would *represent* the possibility of Socrates' being a carpenter, why would its existence (any more than that of the picture) *make it the case* that Socrates could have been a carpenter?

The Scholastic realist, by contrast, has a way to answer the relevance question. He takes possible worlds and other abstract objects to exist as ideas in the intellect of an omniscient and omnipotent cause of the world. The way a possible world in which Socrates is a carpenter makes it the case that Socrates could have been a carpenter is by virtue of being an idea in a divine cause who has the power to have created such a world in light of his idea of it, had he chosen to do so. God's intellect, will, and power provide a way for abstract objects to

[16] Welty, "Theistic Conceptual Realism", p. 92.

have relevance to what actually happens in the world that a Platonic "third realm" lacks.

A more formal statement of the argument

Given its foundation in the complex debate over universals and other abstract objects, the Augustinian argument for God's existence developed in this chapter has taken several twists and turns. But its basic thrust can be summarized as follows:

1. There are three possible accounts of abstract objects such as universals, propositions, numbers and other mathematical objects, and possible worlds: realism, nominalism, and conceptualism.
2. There are decisive arguments in favor of realism.
3. There are insuperable objections against nominalism.
4. There are insuperable objections against conceptualism.
5. So, some version of realism is true.
6. There are three possible versions of realism: Platonic realism, Aristotelian realism, and Scholastic realism.
7. If Platonic realism is true, then abstract objects exist in a "third realm" distinct from either the material world or any intellect.
8. If Aristotelian realism is true, then abstract objects exist only in human or other contingently existing intellects.
9. If Scholastic realism is true, then abstract objects exist not only in contingently existing intellects but also in at least one necessarily existing intellect.
10. There are insuperable objections against the claim that abstract objects exist in a "third realm" distinct from either the material world or any intellect.
11. So, Platonic realism is not true.
12. There are insuperable objections against the claim that abstract objects exist only in human or other contingently existing intellects.
13. So, Aristotelian realism is not true.
14. So, Scholastic realism is true.
15. So, abstract objects exist not only in contingently existing intellects but also in at least one necessarily existing intellect.

16. Abstract objects such as universals, propositions, numbers and other mathematical objects, and possible worlds are all logically related to one another in such a way that they form an interlocking system of ideas.
17. The reasons for concluding that at least some abstract objects exist in a necessarily existing intellect also entail that this interlocking system of ideas must exist in a necessarily existing intellect.
18. So, this interlocking system of ideas exists in at least one necessarily existing intellect.
19. A necessarily existing intellect would be purely actual.
20. There cannot be more than one thing that is purely actual.
21. So, there cannot be more than one necessarily existing intellect.
22. An intellect in which the interlocking system of ideas in question existed would be conceptually omniscient.
23. So, the one necessarily existing intellect is conceptually omniscient.
24. If this one necessarily existing intellect were not also omniscient in the stronger sense that it knows all contingent truths, then it would have unrealized potential and thus not be purely actual.
25. So, it is also omniscient in this stronger sense.
26. What is purely actual must also be omnipotent, fully good, immutable, immaterial, incorporeal, and eternal.
27. So, there is exactly one necessarily existing intellect, which is purely actual, omniscient, omnipotent, fully good, immutable, immaterial, incorporeal, and eternal.
28. But for there to be such a thing is just what it is for God to exist.
29. So, God exists.

Some objections rebutted

The debate over the metaphysical status of abstract objects is over twenty-three hundred years old, and overlaps with a wide variety of other issues—the problem of universals, the metaphysics of modality, and various topics in the philosophy of mathematics and the

philosophy of language. There is no way all of these issues can be canvassed here, nor can I address everything a nominalist, conceptualist, or Platonist might say about the issues there is space to address. But the main lines of argument for realism in general, and Scholastic realism in particular, have now been set out, and some objections aimed specifically at the latter can be addressed.

Some critics object that if universals, propositions, possible worlds, and so forth are taken to be ideas in the divine intellect, then they are not really *abstract* objects at all, but concrete.[17] As Welty has pointed out, one problem with this objection is that there simply is no consensus even among contemporary metaphysicians about the nature of abstract objects.[18] Hence, the objection is not grounded in some settled, neutral understanding of their nature which has the burden of proof in its favor. Aristotelian and Scholastic realists would add that this objection would simply beg the question against them even if it *did* reflect a consensus of contemporary metaphysicians. For Aristotelian and Scholastic realists, an abstract object just *is* what the intellect forms when it *abstracts from* particular things. So, whereas the critic claims that an abstract object *cannot* be something that exists in an intellect, the claim of Aristotelian and Scholastic realists is precisely that it *can only* be something that exists in an intellect. Merely to assert the former claim is therefore not to *show* that the latter claim is false, but rather simply *presupposes* that it is false.[19]

[17] See the remarks by Keith Yandell and William Lane Craig in "Response to Greg Welty", in Gould, *Beyond the Control of God?*, pp. 97–98 and 100–102, respectively.

[18] Greg Welty, "Response to Critics", in Gould, *Beyond the Control of God?*, pp. 107–11.

[19] Part of the problem here is probably that contemporary philosophers tend to conceive of the intellect in a way that is very different from the way Aristotelians and Scholastics conceive of it. For contemporary philosophers, to think is essentially to have a "mental state", understood as a concrete particular existing either in the nervous system or in a Cartesian immaterial substance. For Aristotelians and Scholastics, to think is essentially to take on the form of a thing without taking on its matter or other individualizing features. And this account reflects a more general set of metaphysical and epistemological commitments which also differ radically from those with which most contemporary philosophers are familiar. For an overview of the Aristotelian and Scholastic understanding of the intellect and the role abstraction plays in its activity, see Coffey, *Epistemology*, vol. 1, pt. 3, and Joseph Owens, *Cognition: An Epistemological Inquiry* (Houston: Center for Thomistic Studies, 1992), chap. 5.

As Oderberg notes (*Real Essentialism*, pp. 83–84), contemporary philosophers also tend to draw the abstract-concrete distinction in a way that is very different from the way Aristotelians and Scholastics would draw it. For example, they often characterize it as a distinction

Brian Leftow objects to what he calls "deity theories" of possibility and necessity, of which the Scholastic realist position defended here would be an instance.[20] A deity theory holds that what is possible or necessary is ultimately grounded in God's nature. Scholastic realists, who affirm that God is simple or noncomposite (an idea which I discussed in the last chapter and will revisit in later chapters), certainly hold this. For since God is simple or noncomposite, his intellect, power, goodness, and so forth, and indeed his very nature, must really all be one and the same thing considered under different descriptions. Hence, to say that possibilities and necessities are grounded in ideas in the divine intellect entails that they are grounded in God's nature.

Now, Leftow is willing to allow that necessary truths of pure logic and mathematics are grounded in the divine nature in this way. But he thinks that there are other necessary truths which are not plausibly so grounded. For example, suppose it is a necessary truth that water = H_2O. Then on a deity theory, the fact that this is a necessary truth will follow from God's nature. Hence, if God exists, then it will be necessary that water = H_2O. But then it would also follow, Leftow says, that if it were *not* necessary that water = H_2O, then God would not exist. And this, Leftow concludes, makes God's existence depend on facts about water, which is counterintuitive.

To see what is wrong with this objection, consider the following parallel example. It is a necessary truth that $2 + 2 = 4$, and it follows from this that it is necessary that if you add two rocks to two other rocks, you get four rocks. But then (so it might be claimed) it would also follow that if it were *not* necessary that if you add two rocks to two other rocks, you get four rocks, then it would also not be necessary that $2 + 2 = 4$. And this (so the proposed argument might conclude) makes mathematical truths depend on facts about rocks, which is counterintuitive.

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between what exists outside the spatiotemporal order and what exists within the spatiotemporal order, and also tend to think that something is either abstract or concrete, full stop. But for Aristotelians and Scholastics, what makes something abstract has essentially to do instead with the intellect's power of abstraction, and something can be concrete or abstract depending on whether the intellect has exercised this power. Hence the same one thing—*humanness*, say, or *redness*—can exist both concretely, in particular things, and abstractly, as universals considered by the intellect.

[20] Brian Leftow, *God and Necessity* (Oxford: Oxford University Press, 2012), pp. 209ff.

Now, it is obvious that this argument doesn't establish that truths of mathematics "depend" on facts about rocks in any interesting sense. Mathematical truths entail certain *necessary* truths about rocks, just as they entail certain necessary truths about everything else, but precisely because these are necessary truths, they are never going to be overthrown by mineralogy (a consequence which *would*, of course, be highly counterintuitive, to say the least). But by the same token, Leftow's argument doesn't establish that the divine nature "depends" on facts about water in any interesting sense. The divine nature entails certain necessary truths about water, just as it entails certain necessary truths about everything else, but precisely because these are necessary truths, they are never going to be overthrown by hydrology (a consequence which *would*, of course, also be highly counterintuitive).

To be sure, Leftow does not, and need not, hold that "deity theories" are implicitly committed to the bizarre thesis that claims about God's existence and nature might be overthrown by hydrology. But that just makes the grounds for his allegation that the deity theory has counterintuitive implications extremely elusive. If we're not imagining a case in which the facts about water could turn out to be such that they falsify God's existence, then what exactly does the alleged counterintuitive "dependence" of God's nature on facts about water amount to?

Then there is the fact that Leftow's claim is that *if* it were not necessary that water = H_2O, then (given a "deity theory" of necessity) God would not exist. But why should anyone seriously entertain the antecedent of this conditional? Suppose someone said: "Let's consider a scenario where two and two don't necessarily make four; now, in such a scenario, it would follow that ..." The proper response would be: "Whoa! What do you mean 'Let's consider a scenario where two and two don't necessarily make four ...'? There *couldn't be* such a scenario, ergo we cannot consider it!" Similarly, the "deity theorist" can reply to Leftow: "What do you mean '*If* it were not necessary that water = H_2O ...'? It *is* necessary, and that's that, and so there's no point in trying to consider what would follow if it weren't!"[21] Leftow, who thinks that the necessity of a truth like the proposition that water = H_2O is established by God's will (a variation on a

[21] See Welty, "Response to Critics", p. 108.

view historically known as *voluntarism*), might respond that we can coherently consider this insofar as the proposition that water = H_2O would not have been necessary if God had willed otherwise. But this response would simply beg the question against deity theorists, who reject this voluntarist position.

Another objection to the Augustinian argument I've been developing might take aim at the very idea of what Adams calls "a conceptually omniscient being, a being that eternally understands all essences, possibilities, and necessary truths".[22] For it might seem that this notion presupposes that there is a set of all true propositions. But Patrick Grim has argued that there can be no such set, and that since there cannot be, there also cannot be such a thing as an omniscient being.[23] In particular, Grim asks us to suppose there is a set S of all true propositions. Now consider what is called the "power set" of S—that is, the set consisting of all of S's subsets. According to Cantor's theorem in set theory, the power set of a set contains more members than the set itself, in which case the power set of S contains more members than S. And in that case, S doesn't really contain all truths after all. So, the very idea of such a set is incoherent. There cannot be a set of all truths. But omniscience (claims Grim) requires that there can be. So, there can be no such thing as omniscience.

But there are several problems with this objection.[24] For one thing, as Alvin Plantinga points out, the argument would prove too much.[25] What Grim says about all *true* propositions would also hold of all *propositions*, whether true or not. That is to say, if Grim is correct, there can be no set of all propositions, let alone a set of all true propositions. And in that case we should be unable to make any coherent claims about all propositions. But in fact we *can* make such claims. For example, we can say that all propositions are either true or false, and that no proposition is both true and false. So, why can't we

[22] Adams, *Leibniz*, p. 181.

[23] Patrick Grim, "Logic and the Limits of Language", *Noûs* 22 (1988): 341–67.

[24] For a useful summary of the responses to Grim, see William Wainwright, "Omnipotence, Omniscience, and Omnipresence", in *The Cambridge Companion to Christian Philosophical Theology*, ed. Charles Taliaferro and Chad Meister (Cambridge: Cambridge University Press, 2010), pp. 50–51.

[25] Patrick Grim and Alvin Plantinga, "Truth, Omniscience, and Cantorian Arguments", *Philosophical Studies* 71 (1993): 267–306.

also coherently say, of all true propositions, that an omniscient being would know them? Nor need we think of this in terms of knowledge of a *set* of truths. As Keith Simmons points out, even if there is no *set* of all propositions known by God, it doesn't follow that there is any *particular* proposition that God does not know.[26] That suffices for omniscience.

Finally, as William Wainwright suggests, Grim's objection also seems to assume a model of divine knowledge which would be rejected by those who hold (as, again, Scholastic realists do) that God is absolutely simple or noncomposite.[27] In particular, it seems to assume that the truths God knows correspond to discrete ideas in the divine intellect, which together form a set. But given divine simplicity, what we describe in terms of such discrete ideas is really one and the same thing in God. There is in God something *analogous* to what we call, in the case of our own intellects, a grasp of the proposition that *all men are mortal*, something *analogous* to what we call a grasp of the proposition that *Socrates is a man*, and so forth. But these are different ways of describing what, in God, is really one and the same thing.

A final line of criticism of the Augustinian proof comes from an unexpected quarter. Defenders of the argument are Scholastic realists, but not all Scholastic realists are defenders of the argument. In particular, some Scholastics hold that while their brand of realism is the correct account of abstract objects, it doesn't provide the basis for an argument for God's existence, but is rather a thesis to be brought into play only after God's existence has been established on other, independent grounds.[28] For example, Peter Coffey objects that the Augustinian argument presupposes that what is possible is *eternally* and *necessarily* possible—for example, that horses and unicorns (unlike round squares, say) were possible before any material world and finite minds existed, and would remain possible even if the material world and finite minds went out of existence. But how could we know this unless we *already* knew that there is a necessarily existing intellect in which these possibilities are grounded? The argument also

[26] Keith Simmons, "On an Argument against Omniscience", *Noûs* 27 (1993): 22–33.

[27] Wainwright, "Omnipotence, Omniscience, and Omnipresence", p. 50.

[28] P. Coffey, *Ontology, or The Theory of Being* (Gloucester, Mass.: Peter Smith, 1970), pp. 89–95; and Cardinal Mercier et al., *A Manual of Modern Scholastic Philosophy*, vol. 2 (St. Louis: B. Herder, 1933), pp. 32–35.

presupposes that there is an order of abstract objects independent of our minds, but this, Coffey suggests, results from a kind of cognitive illusion of the sort to which Platonism is prone.

But these objections are not very powerful, or so it seems to me. Consider first that even an atheist could agree that what is possible is eternally and necessarily possible. To be sure, such an atheist would no doubt conceive of these eternal and necessary possibilities in Platonic realist terms—which the Scholastic realist rejects—but the point is that precisely for that reason, one need not, contra Coffey, *presuppose* that they exist in a necessarily existing *intellect*. Consider also that, as a Scholastic realist himself, Coffey can hardly maintain that the notion of an order of abstract objects independent of our minds is *completely* illusory, since he would agree that such an order exists in the divine intellect. What is illusory can only be the Platonic realist *interpretation* of that order.

Read charitably, Coffey seems to be supposing that if someone accepts the thesis that there is an order of abstract objects existing independently of all finite minds, then that person must mean by this either (a) that this order is to be understood in Platonic realist terms, as a "third realm" over and above the material world and finite minds, or (b) that it is to be understood in Scholastic realist terms, as an order of ideas in the divine intellect. But (Coffey seems to be saying) if the person has (a) in mind, then he is supposing something false; whereas if he has (b) in mind, then he is not supposing something false, but will nevertheless be *presupposing* that there is a divine intellect and thus cannot use the thesis in question as the basis of a non-question-begging *argument* for the claim that there is a divine intellect.

But this is a false choice. Someone could instead affirm the thesis that there is an order of abstract objects that in *some* way exists independently of all finite minds, while leaving it undetermined exactly what way that is. Indeed, this is precisely the thesis that Platonic realists and Scholastic realists have in common, and on the basis of which they can go on to debate which of their views best accounts for the truth of the thesis. Now, since the defender of the Augustinian argument can accept this thesis without affirming (a), he is not presupposing anything false, and since he can accept it without affirming (b), he is not begging the question. Hence, Coffey's objection (as I have interpreted it) fails.

4

The Thomistic Proof

Informal statement of the argument: Stage 1

The world of our experience contains stones, trees, dogs, human beings, and a wide variety of other things. We know what these things are, and we know that they are part of reality outside our minds. Notice that what we thereby know about them are *two* distinct things. First, we know, again, *what* they are. You know, for instance, that *what* a human being is is a rational animal. That is the *nature* or *essence* of a human being. (Though once again, it doesn't matter for present purposes whether you agree with this traditional definition of a human being or not. Substitute some other definition if you prefer.) Second, you know *that there really are* human beings. That is to say, you know that human beings *exist*.

So, we can distinguish between a thing's *essence* and its *existence*, between *what* it is and the fact *that* it is. Now, some distinctions we draw are merely distinctions between ways in which we might think or talk about things, but don't reflect any difference in reality. For example, we talk about bachelors and we talk about unmarried men, but there is nothing in the things we are talking about themselves that corresponds to this distinction. A bachelor and an unmarried man are in reality exactly the same thing, so that the difference is merely verbal. Is the distinction between a thing's essence and its existence like this? Or does the distinction reflect something in things themselves, as they really are apart from our ways of thinking and talking about them?

There are several reasons why the distinction between essence and existence must be a *real* distinction, a distinction that reflects objective, mind-independent reality itself and not merely the way we think

about it.[1] Consider first that you can know a thing's essence without knowing whether or not it exists. Suppose a person had, for whatever reason, never heard of lions, pterodactyls, or unicorns. Suppose you gave him a detailed description of the natures of each. You then tell him that of these three creatures, one exists, one used to exist but is now extinct, and the third never existed; and you ask him to tell you which is which given what he now knows about their essences. He would, of course, be unable to do so. But then the existence of the creatures that do exist must be really distinct from their essences, otherwise one *could* know of their existence merely from knowing their essences. For *what* a thing is is part of its objective reality. The biological facts about lions and pterodactyls would be exactly the same whether or not we were around to study them. This would be true of unicorns too, if there were any unicorns. And if a thing exists, then its existence too is obviously part of its objective reality. So, if the essence and existence of a thing were not distinct features of reality, then knowing the former should suffice for knowing the latter, yet it doesn't.

It might be objected that this argument presupposes that we have a *complete* grasp of the essence of a thing, which typically we don't. For unless we had a complete grasp, how could we know whether or not existence was part of a thing's essence? But the objection fails, for there is a crucial disanalogy between what is uncontroversially a part of a thing's essence, on the one hand, and the existence of the thing on the other. Suppose you judge that a lion is a kind of animal but do not judge that it is a kind of cat. In that case, while you have only *incompletely* conceived of what it is to be a lion, you have not for that reason *mis*conceived what it is to be a lion. By contrast, if you not only fail to judge that a lion is a kind of cat but judge that a lion *is not* a kind of cat, then you *have* misconceived what it is to be a lion. Now, if we suppose that you judge that lions don't exist—perhaps you think they have gone extinct like pterodactyls, or that they are creatures of fiction like unicorns—then

[1] For a detailed discussion and defense of the real distinction between essence and existence, see Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014), pp. 241–56; and David S. Oderberg, *Real Essentialism* (London: Routledge, 2007), pp. 121–25.

while you have judged falsely, you have *not* misconceived *what it is* to be a lion. Yet if the existence of a lion were not distinct from its essence, this would not be the case. Judging it to be nonexistent would be as much to misconceive *what* it is as judging it to be a noncat would be.[2]

A second reason why the essences of the things of our experience must be distinct from the existence of those things has to do with their *contingency*—the fact that, though they do exist, they could have failed to exist. For example, lions exist, but had the history of life gone differently, they would not have existed; and it is possible that lions could someday go extinct. Now, if the existence of a contingent thing was not really distinct from its essence, then it would have existence just by virtue of its essence. It would exist by its very nature, and would therefore not be contingent at all but *necessary*—that is to say, it would be something that could not possibly not exist, not even in principle. Hence, since it is not necessary but contingent, its existence must be really distinct from its essence.[3]

One might object to this argument that we need not posit a real distinction between a contingent thing's essence and its existence in order to account for its contingency, but can instead point to the facts that it has a cause and has the potentiality for nonexistence. For example, one might say that a lion is contingent because lions need to be caused—say, by previously existing lions—and if these causes are absent, then a new lion won't come into being. And we might note that lions can go out of existence because they have the potentiality to be killed by predators, to starve or catch a disease, and so forth. However, this objection simply misses the point. For we need to know *why* a contingent thing's existence would need (or indeed could have) a cause in the first place if its existence were not distinct from its essence, and *why* it has (or indeed could have) a potentiality for nonexistence in the first place if its existence were not distinct from its essence. If existence were just part of *what it is*, then it would not need something else to cause it, and there would not be anything in it that could give it the potential to go out of existence.

[2] See Oderberg, *Real Essentialism*, p. 123.

[3] See David S. Oderberg, "How to Win Essence Back from Essentialists", *Philosophical Writings* 18 (2001): 39.

A third reason why the essence and existence of each of the things we know through experience must be distinct is that if there *is* something whose essence and existence are not really distinct—and we will see presently that there is and indeed must be such a thing—then there cannot in principle be *more than one* such thing. For consider that, if some thing's essence and existence are not really distinct, then they are identical; and if they are identical in that thing, then that thing would be something whose essence *just is* existence itself. Now, for there to be more than one thing that *just is* existence itself—suppose there are two, and label them A and B—then there would have to be something that differentiated them. There would have to be something by virtue of which A and B are distinct things rather than one thing. But what could that be? There are only two possibilities. A and B might be differentiated in the way two species of the same genus are differentiated; or they might be differentiated in the way two members of the same species are differentiated. And the problem is that on analysis it turns out that A and B could *not* be differentiated in either of these ways.

Hence, consider the way two species of the same genus are differentiated. A genus is a more general class of thing, and a species is a more specific class of thing.[4] When we say that human beings are rational animals, we are saying that they as a species fall under the genus *animal*, and that their being rational is what differentiates them from other species of animal. To use the traditional technical jargon, *rationality* is thus what is called the "specific difference" that distinguishes human beings from other species of animal. So, for our imagined things A and B to differ as species do, we would have to regard *being that which just is existence itself* as a genus, and A and B as two species within that genus; and we'd then have to identify some "specific difference" that A has that makes it a different species of *being that which just is existence itself* from the species B. But the trouble is that if A has such a "specific difference", then it will not be *that which just is existence itself*; rather, it will be *that which just is existence itself* PLUS that specific difference. (Compare: A human being is not

[4] Naturally, I am using the terms "genus" and "species" in the broad sense in which they are traditionally used in logic and metaphysics, not the narrower and technical sense in which they are used in modern biology.

animality itself, but rather *animality* PLUS the specific difference *rationality*.) And the same will be true of B—to be differentiated from A, it will also have to be *that which just is existence itself* PLUS its own specific difference. So, there is no way to distinguish two things which just are existence itself in the way two different species of the same genus are differentiated.

Consider now the way two members of the same species are differentiated. Socrates, Plato, and Aristotle are different members of the same species *human being*; Fido, Rover, and Spot are different members of the same species *dog*; and so forth. The way these members are differentiated is by virtue of being associated with different parcels of matter. The matter that makes up Socrates' body is different from that which makes up Plato's or Aristotle's body; the matter that makes up Fido's body is different from that which makes up Rover's or Spot's; and so on. (Of course, there are other differences between these individuals. Socrates' brain will be wired in ways that are different from the way Aristotle's brain is wired, Fido might have a different color of fur than Spot, and so forth. But these other differences *presuppose* different parcels of matter in which the brain wiring, fur color, etc. inhere.) So, though Socrates and Plato are both human, they can differ because Socrates is *humanity* plus *this* particular bit of matter, whereas Plato is *humanity* plus *that other* particular bit of matter; and something similar can be said for the different members of other species. But then it should be obvious why we cannot differentiate two things A and B each of which is *that which just is existence itself* in the way that different members of a species are differentiated. For so differentiated, A and B will *not* after all be *that which just is existence itself*; rather, A will be *that which just is existence itself* PLUS this particular bit of matter, and B will be *that which just is existence itself* PLUS that other, particular bit of matter. (Compare: Socrates is, again, *humanity plus* this particular bit of matter—in which case Socrates is not *humanity itself*.)

In general, for there to be more than one thing which is *that which just is existence itself*, there would have to be something that made it the case that *this* instance of *that which just is existence itself* differed from *that* instance. And each such instance would, then, not really be *that which just is existence itself* after all, but rather that *that which just is existence itself* PLUS whatever the differentiating feature is. So,

there really is no sense to be made of there being more than one of something which *just is* existence itself. And in that case there is no way to make sense of there being more than one of something whose essence and existence are not really distinct. If there is such a thing, it will be unique. Now, the things of our experience are *not* unique in this way. With stones, trees, dogs, human beings, and the like, there *is* (or certainly could be in cases where the class has been reduced to a single member) more than one of each of these kinds of thing. Therefore there is in each of them a real distinction between its essence and its existence.

A possible objection to this third argument is that it neglects a middle possibility. For why couldn't there be something whose existence is not distinct from its essence, not because its essence *just is* existence itself, but rather because existence is *part of* its essence?[5] But on reflection this suggestion makes no sense. Consider that the essence of human beings, *rational animality*, has *rationality* and *animality* as parts. Suppose *existence* were another part of this essence, alongside these. Then the existence of the whole human being would depend on this part. But that is no more plausible than saying that the whole human essence, *rational animality*, depends on *animality* alone. Now if someone insisted that the whole human essence really *does* depend on *animality* alone, then that would make *animality* itself the true essence. Similarly, if someone insisted that the whole human being depended on *existence* considered as a part of the human essence, then this would make *existence* the true essence. But then we would be back with the thesis that a thing in which there is no distinction between its essence and its existence is a thing whose essence *just is* existence itself—which is exactly what the objector was trying to avoid. So, there really is no middle ground between the case where a thing's essence and existence are really distinct and the case where its essence just is existence itself.[6]

Note that to say that a thing's essence and existence are really distinct is not to say that they can exist *separately*. It does not entail that (say) a stone's essence is a kind of object and its existence another object, where either object might exist apart from the other. A real distinction between two things sometimes involves separability, but

[5] See Peter Weigel, *Aquinas on Simplicity* (New York: Peter Lang, 2008), p. 86.
[6] Ibid., pp. 144–45.

not always. For example, two dogs, or a dog and its leg, are really distinct, and each might exist apart from the other. By contrast,

> consider a circle. It has both a radius and a circumference. There is obviously a real distinction between the properties *having a radius* and *having a circumference*. This is not because, when confining ourselves to circles, *having a radius* can ever exist apart from *having a circumference* ...
>
> The radius of a circle is really distinct from its circumference, as proved by the fact that the latter is twice the former multiplied by *pi*. Since the radius is *part* of the property *having a radius* and the circumference is part of the property *having a circumference*, the properties themselves are really distinct though inseparable.... [T]he same is true for triangularity and trilaterality.[7]

Similarly, there is no such thing in mind-independent reality as a thing's essence existing apart from its existence (whatever that would mean) or a thing's existence existing apart from its essence (whatever that would mean). The essence of a stone, or a tree, or a dog, or a human being is not *separable* from its existence. Still, as with the radius and circumference of a circle, or the triangularity and trilaterality of a triangle, the essence of each of these things is *really distinct* from its existence.

So, with each of the things we know through experience, there is a real distinction between its essence and its existence. How is it, then, that these two different aspects of a thing are combined into a whole? It might seem that their inseparability provides an answer: they are together (so it might be claimed) because the essence of a thing and its existence are as inseparable as the radius and circumference of a circle are, or as triangularity and trilaterality are. But this is no answer, because it just raises the question of *why* they are inseparable. Now, the answer in the case of the radius and circumference of a circle is that these both follow from the *essence* or nature of a circle. Anything having that essence is going to have the properties *having a radius* and *having a circumference*. Similarly, anything having the essence of a triangle is going to have the property *trilaterality*, which follows from that essence.[8]

[7] David S. Oderberg, "The Non-Identity of the Categorical and the Dispositional", *Analysis* 69 (2009): 677 (emphasis in the original).

[8] Ibid., p. 678.

However, we cannot in the same way explain how the essence of one of the things of our experience is conjoined with its existence. In particular, it cannot be that its existence follows from its essence. The reason is implicit in what has already been said. If you know the essence of a circle, then you will know that any circle will exhibit the properties *having a radius* and *having a circumference*; and if you know the essence of a triangle, then you know that it will exhibit the property *triangularity*. But as we have seen, you can know the essence of a lion, pterodactyl, or unicorn without knowing one way or the other whether any of these animals exists. Hence, the existence of one of these things does not follow from its essence in the way the properties *having a radius* and *having a circumference* follow from the essence of a circle, or the way the property *triangularity* follows from the essence of a triangle. We also have noted that the things of our experience exist in a merely contingent way—which is why they come into being and pass away—rather than in a necessary way. For this reason too, their existence cannot follow from their essence, for if it did, then they *would* exist necessarily. And while with something whose essence *just is* existence itself, its existence would, naturally, follow from its essence, we saw that there can in principle be only one such thing. Hence, with things of which there is more than one instance (stones, trees, dogs, human beings, etc.), it cannot be the case that they are things whose essence is identical with their existence, and thus cannot be the case that their existence follows from their essence.

Nor can it be the case that the things of our experience somehow *impart* existence to themselves—adding it, as it were, *to* their essences from outside. The very suggestion would be incoherent. A thing can't impart or add something, or indeed do anything at all for that matter, unless it first exists. But a thing whose essence and existence are distinct cannot exist until existence is added or imparted to its essence. Naturally, then, a thing whose essence and existence are distinct cannot impart existence to its *own* essence, for in that case it would have to exist *before* it exists so as to cause itself to exist—which makes no sense. Nothing can be the cause of its own existence.

So, nothing in which there is a distinction between its essence and its existence can in any way be the source of its own existence. Its existence must be caused by something outside it—something which adds existence to its essence, as it were. Everyday experience

would agree insofar as it tells us that stones, trees, dogs, and human beings have causes. But the dependence of these things on a cause for their existence is more radical than everyday experience would indicate. For notice that everything said so far applies to a thing not only *before* it comes into being and *as* it comes into being but *always*, even *after* it has come into being. For example, consider a certain dog, Fido. Fido's existence is distinct from Fido's essence, doesn't follow from Fido's essence, and cannot be imparted by Fido to his essence. All of these things are true not only before Fido exists and at the time he is conceived, but also after he comes into being, and indeed at every moment he is alive. Fido's existence *here and now* is distinct from his essence and doesn't follow from his essence. So, *here and now* there must be some cause which adds or imparts existence to that essence. Otherwise Fido wouldn't exist *here and now* any more than he did before he was conceived. He would "blink out" of existence or be annihilated. Nor can *Fido* be what is adding or imparting existence to his own essence here and now, any more than he could have before he was conceived. For Fido cannot do anything at all, not even for an instant, unless he exists at that instant. Among the things he cannot do unless he exists at that instant is to impart existence, either to himself or to anything else. So, his *causing* his own existence at that instant *presupposes* his own existence at that instant. Hence, the notion of Fido or anything else imparting existence to its own essence even at a particular instant is incoherent. A thing cannot cause its own existence at any one moment of time any more than it can cause it over a series of moments spread out through time.

So, anything whose essence is distinct from its existence must have a cause of its existence *at any moment* that it exists, *here and now* and not merely at some point in the past. To stick with the example of Fido, he must therefore have a cause which *here and now* imparts existence to his essence. Let's label this cause, whatever it is, C. Suppose that C, like Fido, is something whose own essence is distinct from its existence. Then what we said about Fido and about the other things of our experience applies no less to C. C too must have a cause *here and now* which imparts existence to its essence. Let's call this further cause B. Suppose that B, like Fido and like C, is also something whose essence is distinct from its existence. Then B, *here and now*, will require a cause of his own, which we might label A. And of course,

what was said about C and B will apply also to A, if A is something whose essence is distinct from its existence.

Notice that what we have here is what I called in chapter 1 a *hierarchical* causal series. The reason is not merely that the causes and effects are all simultaneous—Fido is caused by C, which is simultaneously being caused by B, which is simultaneously being caused by A—but, more fundamentally, that none of the causes mentioned so far can act independently of some prior cause. C can impart existence to Fido's essence only insofar as C's own essence has existence imparted to it by B, and B can do this imparting only insofar as *its* own essence has existence imparted to it by A. Now as we saw in chapter 1, in the nature of the case, this sort of causal series cannot regress infinitely. There would be no such series at all unless there were a cause which is "first" or primary in the sense that it can cause without having, in the very act of causing, to be caused itself. In the present case such a cause would be one which can impart existence without having to derive it. Now, nothing whose essence is distinct from its existence could be such a cause, since as we have seen, anything like that has to have existence imparted to it. The first or primary cause in the present series, then, can only be something the very essence of which is *identical* to existence, something which *just is* existence itself. For since it *just is* existence itself, is *identical with* existence itself, it need not and indeed could not derive its existence from anything else. Its existence is, as it were, "built in". It is not merely one existing thing alongside others but what Thomas Aquinas calls "subsistent existence itself".[9]

So, for Fido to exist here and now and at any moment, his existence must here and now be caused, whether directly or indirectly, by something the essence of which is identical to its existence, something which is subsistent existence itself. And that entails that it must be caused by God.

Informal statement of the argument: Stage 2

Why should we identify that which is subsistent existence itself with God? Consider first that what we have said about Fido applies to each

[9] See Aquinas, *De Ente et Essentia* [On Being and Essence], in *Selected Writings of St. Thomas Aquinas*, trans. Robert P. Goodwin (Upper Saddle River, N.J.: Prentice Hall, 1965), chap. 4.

and every one of the things we know from experience—stones, trees, lions, human beings, and so on—and indeed to anything the essence of which is distinct from its existence, including immaterial things like angels and disembodied souls. The existence of *any* such thing, at any moment, will have to be caused by something whose essence *just is* existence itself. Consider also that, as we have seen, there can in principle be only *one* thing whose essence just is existence itself. And consider further that things whose essence is distinct from their existence, and a thing whose essence is identical with its existence, exhaust the possible kinds of thing there are. So, if there can be only one thing of the latter type, then everything else that exists must be of the former type. And since everything of the former type depends upon that one thing of the latter type, it follows that everything that exists *other than* that which is subsistent existence itself must be *caused by* that which is subsistent existence itself.

Hence, that which is subsistent existence itself is *unique* and the *cause of everything other than itself*. We have also seen that something which just is existence itself would exist in a *necessary* rather than contingent way. For since its very essence would *just be* existence itself, it would not and indeed could not fail to exist. Nor, for that reason, would it or could it have its existence imparted to it. It would therefore have to be an *uncaused* cause of the existence of all other things.

So, what has been said so far shows that that which is subsistent existence itself is a *unique, necessarily existing, uncaused cause of everything other than itself*. Now consider the relationship of the concepts introduced in this chapter to the concepts of *potentiality* and *actuality* introduced in chapter 1. As Aquinas emphasized, in a thing whose essence is distinct from its existence, its essence and existence are related as potentiality and actuality. Fido's essence, for example, by *itself* amounts only to a *potential* thing, not an actual thing. Only when Fido's essence has existence imparted to it is there an actual thing—namely, Fido. Now if essence considered by itself is a kind of potentiality, and existence considered by itself is a kind of actuality, then that which *just is* existence, that which just is subsistent existence itself rather than merely one derivatively existing thing alongside others, must be purely actual. It could not have some *potentiality* for existence that needs to be actualized, for then it would not be something which *just is* existence, but rather merely yet some other thing to which existence must be imparted.

Now, just as there can in principle only be one thing which is subsistent existence itself, so too, as we saw in chapter 1 can there in principle be only one thing which is purely actual. Hence, the purely actual actualizer, to which the Aristotelian proof leads, and that which *just is* subsistent existence, to which the Thomistic proof leads, are really the *same one* cause of all things, arrived at from different starting points. Now, we also saw in chapter 1 that whatever is purely actual must be *immutable, eternal, immaterial, incorporeal, perfect, omnipotent,* and *fully good.* We also saw there that, when we factor in the principle of proportionate causality, anything that is the cause of all things (as that which is subsistent existence itself is) would have to have *intellect* and *omniscience.*

Hence, that which is subsistent existence itself must be *one, necessarily existing,* the *uncaused cause of everything other than itself, purely actual, immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent,* and *omniscient.* It is, in short, God.

A more formal statement of the argument

As with the arguments defended in previous chapters, I have so far stated the Thomistic proof in an informal and unhurried way so as to facilitate understanding, especially among readers unfamiliar with the technical philosophical notions deployed in the proof. But now that the overall thrust of the reasoning is clear, it will once again be useful to have a somewhat more formal summary. It might be stated as follows:

1. For any of the things we know from experience (stones, trees, dogs, human beings, etc.), there is a distinction to be drawn between its *essence* and its *existence.*
2. If this were not a *real* distinction—a distinction between aspects of *reality itself* and not merely between ways of thinking or talking about reality—then we could know whether or not a thing exists simply by knowing its essence.
3. But we cannot know whether or not a thing exists simply by knowing its essence.
4. If it were not a real distinction, then the things we know from experience would exist in a necessary way rather than in a merely contingent way.

5. But in fact they exist in a merely contingent way, and not in a necessary way.
6. If there could in principle be more than one thing the essence of which is identical to its existence, then two or more such things would be distinguishable in the way that species of the same genus are distinguished, or members of the same species are distinguished, or in some other way.
7. But they cannot be distinguished in any of these ways.
8. So, there could not in principle be more than one thing the essence of which is identical to its existence.
9. So, for any of the things we know from experience, if the distinction between its essence and its existence were not a real distinction, then there could not in principle be more than one of them.
10. But in fact, for each of the things we know from experience, there is, or could be, more than one of them.
11. So, for each of the things we know from experience, the distinction between its essence and its existence is a *real* distinction.
12. For anything the essence of which is really distinct from its existence, its existence must be imparted to it either by itself or by some cause distinct from it.
13. But if it imparted existence to itself, it would be the cause of itself.
14. Nothing can be the cause of itself.
15. So, it cannot impart existence to itself.
16. So, for anything the essence of which is really distinct from its existence, its existence must be imparted to it by some cause distinct from it.
17. Since its essence and existence remain really distinct at every moment at which it exists, including here and now, its existence must be imparted to it by some cause distinct from it at every moment at which it exists, including here and now.
18. So, for each of the things we know from experience, its existence must be imparted to it by some cause distinct from it at every moment at which it exists, including here and now.
19. Either this cause is itself something the essence of which is distinct from its existence, or it is something whose essence and existence are identical, something that *just is* subsistent existence itself.

20. If this cause is something the essence of which is distinct from its existence, then its own existence too must be imparted to it by some cause distinct from it at every moment at which it exists, including here and now.
21. The causal series this would generate would be a hierarchical one, which cannot regress infinitely but must have a first member.
22. This first member could only be something whose essence and existence are identical, something that *just is* subsistent existence itself.
23. So, either directly or indirectly, each of the things we know from experience has its existence imparted to it at every moment at which it exists, including here and now, by some cause whose essence and existence are identical, something that *just is* subsistent existence itself.
24. Since there cannot in principle be more than one thing the essence of which is identical to its existence, this cause which is subsistent existence itself is unique.
25. Since it is unique, anything other than it that exists must be something the essence of which is distinct from its existence.
26. Anything the essence of which is distinct from its existence will, either directly or indirectly, have its existence imparted to it by a cause which is subsistent existence itself.
27. So, this unique cause which is subsistent existence itself is the cause of everything other than itself.
28. Since whatever lacks a real distinction between its essence and its existence would exist in a necessary rather than contingent way, this unique cause which is subsistent existence itself exists in a necessary way.
29. Whatever is subsistent existence itself need not and could not have had a cause of its own.
30. So, this unique cause which is subsistent existence itself is uncaused.
31. If that which is subsistent existence itself had some potentiality for existence which needed to be actualized, then existence would have to be imparted to it by some cause.
32. So, that which is subsistent existence itself has no potential for existence which needs actualization, but rather exists in a purely actual way.

33. Whatever is purely actual must be immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent, and omniscient.
34. So, each of the things of our experience has its existence imparted to it at every moment by a cause which is Subsistent Existence Itself, one, necessarily existing, the uncaused cause of everything other than itself, purely actual, immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent, and omniscient.
35. But for there to be such a cause is for God to exist.
36. So, God exists.

Some objections rebutted

Some of the objections a critic might raise against this argument are the same as those raised against the Aristotelian proof developed in chapter 1, to which I have already replied or will reply. For example, some might raise various objections to the arguments given here for the claim that a cause which is subsistent existence itself would have to have the divine attributes. The divine attributes will be discussed at length in a later chapter, and such objections will be addressed there. Suffice it for the moment to emphasize that what has been said so far shows that it is no good glibly to allege (as critics often do) that even if there is a first cause of things, it need not be a divine cause. We have just seen reason to think it must be a divine cause.

Some might also object that the Thomistic argument assumes that the universe had a beginning, or is open to the retort "If everything has a cause, then what caused God?" We saw in chapter 1 why these objections are completely without force when raised against the Aristotelian proof, and they have no more force when raised against the Thomistic proof. Note first that the argument is simply not at all concerned with the question of whether the universe had a beginning in time. The claim is *not* that the chain of causes traces backward into the past until it terminates in a cause which is Subsistent Existence Itself. Rather, the claim is that it traces *here and now* to a cause which is Subsistent Existence Itself. Even if the universe has always existed, or is part of a multiverse which has always existed, this would not change the outcome of the Thomistic proof in the slightest.

Nor does the argument rest on the premise that "*everything* has a cause." What it says is that *something whose essence and existence are really distinct* requires a cause. And the reason God does not have a cause is not that he is an arbitrary exception to this general rule, but rather that there *is no* real distinction in him between essence and existence. Something which *just is* subsistent existence itself not only needs no cause of its existence but could not have had one. Nor is this something defenders of the argument have come up with as a way to try to sidestep the "What caused God?" objection. It was *always* what the Thomistic tradition had in mind from the beginning. As in the case of the Aristotelian proof, the "What caused God?" objection, far from being the devastating retort many atheists suppose, is in fact utterly incompetent, completely missing the point of the arguments at which it is directed.

The interested reader is advised to review what was said in chapter 1 in reply to the various other objections there considered, for many of the points made there are relevant here also. For example, some critics may appeal to Hume, or to quantum mechanics, in order to cast doubt on the premise that something whose essence and existence are really distinct requires a cause. These objections are, for the reasons given in chapter 1, no better when raised against the Thomistic proof than when raised against the Aristotelian proof.

Why need there be a first cause?

A further objection against "first cause" arguments, famously raised by Hume—and distinct from his criticism of the principle of causality, considered in chapter 1—also has no force against the Thomistic proof. Hume asks, if we have explained each member of a causal series by appealing to an earlier member, what need do we have for a first cause? For even if we trace the series of causes back infinitely, we will never have a case where any individual thing is left unexplained. As we saw in chapter 1, if it is *linear* causal series that are in question, we can agree with Hume that no first cause is necessary. But it is *hierarchical* causal series that the Thomistic proof, like the Aristotelian proof, is concerned with, and here the need for a first cause follows from the fact that in such a series all causes other than the first are purely instrumental, having no causal power of their

own. Extending the series to infinity would not change this in the least. As noted in chapter 1, even if a hierarchical causal series *were* infinite, as long as each member of this infinite series is purely instrumental, and thus causally inert of itself, there will have to be a cause outside the series which imparts causal power to all of the series' members—a cause which would then be "first" not in the sense of coming at the head of the series, but rather in the sense of being that on which every member of the series depends for its causal power.

The irrelevance of Hume's objection is even more obvious when we consider the key role played in the Thomistic argument by the distinction between a thing's essence and its existence. The kind of series which Hume (rightly) says might in principle be infinite is a series of things *generated* in time out of preexisting materials. *Given* Fido's parents, the matter out of which they are made, the causal powers they possess, and so forth, we can account for Fido's being conceived; and we can account for Fido's parents in the same way, and their parents in turn in the same way, and so on. But the Thomistic proof is concerned instead with what *conserves* a thing in existence at any moment of time, as opposed to being annihilated. Here the question is why Fido, or his parents, or anything at all—*including* the matter out of which they are made and their causal powers—persist in existence even for an instant, given that there is nothing in their essence that entails their existence. Even if each dog in the linear causal series of dogs extending backward in time was generated by some earlier dog, with the series going back infinitely, as long as the existence of each dog is distinct from its essence, each dog will also have to be conserved in being at each moment. Without a conserving cause, Fido or his parents would be nothing, and the same is true of any conserving cause whose own essence is distinct from its existence. An infinite series of such conserving causes can no more get you a real dog than an infinite series of IOUs can give you real money. Just as IOUs have to be backed at some point with real money, so too must any hierarchical series of causes which impart existence to Fido at any moment terminate in something which, since it is Subsistent Existence Itself, needn't have existence imparted to it by anything else.

Barry Miller has suggested that the logical form of an explanation which makes appeal to a necessarily terminating regress of causes would be something like the following:

> *A* is being caused to *G* by [*B* inasmuch as it is being caused to *G* by (*C* inasmuch as it is being caused to *G* by {*M*})].[10]

Given its form, however many iterations of "___ inasmuch as it is being caused to G by ___" we might want to add to this sentence so as to describe a yet longer series, the sentence cannot actually be completed in a way that would leave open the possibility of there being an *infinite* number of such iterations. The only way to complete it will be at some point to insert a term like "M" (or whatever), which names a first member.[11] In the case at hand, if we substitute "Fido" for "A" and "exist" for "G", then however many intermediate causes of Fido's existence we posit for the sake of argument, we are logically forced to terminate the regress with some first cause M. And since M's existence would be as much in need of a cause as Fido, B, or C are if it were something whose essence and existence were really distinct, the only way nonarbitrarily to stop with M is if M is that which just is Subsistent Existence Itself.

Yet another charge often made against "first cause" arguments is that they commit a "fallacy of composition". If each brick in a certain wall weighs a pound, it doesn't follow that the wall as a whole weighs a pound; similarly (the objection continues) if each thing in the universe requires a cause, it doesn't follow that the universe as a whole must have a cause. But there are two problems with this objection, at least considered as a criticism of the Thomistic proof. First, as is well known to logicians, part-to-whole reasoning of the sort in question is not in fact always fallacious. For example, if every brick in a wall built out of a child's Lego blocks is red, then it follows that the wall as a whole is red. Similarly, given that the distinction between a particular material thing's essence and its existence suffices to show that it requires a cause, it is surely correct to say that the space-time universe as a whole—which is comprised of material things and which itself has an essence distinct from its existence—must also have a cause.

But secondly and more importantly, the Thomistic proof does not in fact involve reasoning in this part-to-whole fashion in any case.

[10] Barry Miller, "Necessarily Terminating Causal Series and the Contingency Argument", *Mind* 91 (1982): 24.

[11] See Ibid., 201–15; and Miller's *From Existence to God: A Contemporary Philosophical Argument* (London: Routledge, 1992), chap. 6.

To get the proof going, one need not consider the universe as a whole, but just any individual thing whose essence is distinct from its existence—Fido, or a particular stone or tree or human being, or whatever. To explain *even that single thing* will require appeal to a conserving cause, which is Subsistent Existence Itself. To be sure, I said above that since everything the essence of which is distinct from its existence must be caused by that which is Subsistent Existence Itself, and since that which is subsistent existence itself is unique, it follows that that which is subsistent existence itself is the cause of everything other than itself—in which case it is the cause of the entire universe. But this claim about the universe as a whole is a *consequence* of the argument; no claim about the universe as a whole functions as a *premise* of the argument.

Kenny's objection

Anthony Kenny has been highly critical of the Thomistic doctrine of the real distinction between a thing's essence and its existence.[12] Kenny distinguishes between two notions of existence.[13] The first is "specific existence", which is expressed by the existential quantifier in modern logic. Specific existence, that is to say, is what is captured in statements of the form "There is an x such that ..." It has to do with whether or not there is an instance of a certain *species*. Specific existence on this view is thus a second-order predicate of *concepts*—rather than a first-order predicate of individual objects—and "There is an x such that x is F" is true of a concept F when F is exemplified. Kenny's second notion of existence is "individual existence", which is what is captured in statements like "The Great Pyramid still exists, but the Library of Alexandria does not." Individual existence, that is to say, is just that which the Library of Alexandria lost when it was destroyed, but which the Great Pyramid still has. It has to do with what is true of an *individual* rather than a species.[14]

[12] See Anthony Kenny, *Aquinas* (Oxford: Oxford University Press, 1980), chap. 2; and Kenny's *Aquinas on Being* (Oxford: Clarendon Press, 2002).

[13] Kenny, *Aquinas on Being*, p. 42.

[14] The notion of existence as a second-order predicate of concepts (what Kenny calls "specific existence") is most famously associated with the modern logician Gottlob Frege. What Kenny calls "individual existence" corresponds to Frege's notion of *Wirklichkeit*.

Now the Thomistic proof maintains that essence and existence are identical in God but really distinct in everything else. But in Kenny's view this cannot be true on either notion of existence. Suppose we read the Thomistic claim in terms of specific existence. In that case, Kenny argues, either essence and existence are as distinct in God as they are in everything else, or the Thomistic position is simply nonsensical. For what it can intelligibly mean to say, that the essence of a thing is distinct from its specific existence, is merely something like what is captured in the statement "We can know what a unicorn is without knowing whether there is an x such that x is a unicorn." But by the same token, we can know what *God* is without knowing whether there is an x such that x is God.[15] Yet if the Thomist is insisting that essence and specific existence are not distinct in God, then his position is not even intelligible. It amounts to saying something like "God's essence is there is an x such that ..."[16]

Suppose, then, that what the Thomist has in mind is not specific existence but individual existence. Unlike specific existence, individual existence can intelligibly be predicated of a thing. It makes sense to say of the Great Pyramid that it still exists or of Fido that he still exists. Now what this amounts to, Kenny says, is just for Fido to go on being what he is—namely, a dog. If we insist on saying that God's essence and existence are identical, then in Kenny's view this is intelligible if what we mean is just that if God exists, then he goes on being what he is—namely, God. But in that case essence and existence will be identical not only in God but in Fido and in everything else. In having individual existence, they all go on being what they are.[17]

But there are several problems with Kenny's critique, which have been ably exposed by Gyula Klima.[18] For one thing, when arguing that the notion of individual existence cannot salvage the Thomist's position, Kenny evidently supposes that a real distinction entails separability. He writes: "Can we say that Fido's essence and Fido's existence are distinct? If a real distinction between A and B means that we

[15] Kenny, *Aquinas on Being*, p. 37.

[16] Ibid., pp. 41, 43–44.

[17] Ibid., p. 45.

[18] See Gyula Klima, "On Kenny on Aquinas on Being", *International Philosophical Quarterly* 44 (2004): 567–80, and Klima's "Aquinas vs. Buridan on Essence and Existence", in *Later Medieval Metaphysics: Ontology, Language, and Logic*, ed. Charles Bolyard and Rondo Keele (New York: Fordham University Press, 2013), pp. 30–44.

can have one without the other, then it seems that the answer must be in the negative."[19] But as Klima points out, and for the reasons set out above, a real distinction does *not* entail separability; certainly it begs the question against the Thomist merely to assume otherwise.[20] Hence, Fido's being *what* he is—his essence—need not be identical to his individual existence, even if we can't have one without the other. And for all Kenny has shown, the arguments for the real distinction that we have considered show that they are not identical.

Kenny begs the question against the Thomist in a much deeper way, however, by assuming that the notions of existence he countenances are the only respectable ones. For the Thomist wouldn't agree with such an assumption in the first place. Now, a standard argument for the view that the notion of specific existence is the only legitimate one is that if existence were a first-level predicate of objects, then (it is claimed) negative existential statements like "Martians do not exist" would be self-contradictory, which they obviously are not. For if we think of this statement as saying that Martians do not have the attribute of existence, this would seem to entail that there are (i.e., there exist) certain creatures—namely, Martians—who lack existence. Since that is absurd, the statement "Martians do not exist" cannot be interpreted as denying an attribute of existence to some object or objects. It should rather be interpreted in terms of the notion of specific existence, as saying something like "It is not the case that there is at least one x such that x is a Martian." That is to say, it says of the concept *being a Martian* that there is nothing to which it applies.

However, as John Knasas has argued, regarding existence as a first-level predicate need not have the absurd implication that "Martians do not exist" is self-contradictory.[21] For this would follow only if, when we grasp the concept *Martians*, we necessarily already grasp it as applying to something existing in reality, so that "Martians do not exist" amounts to "The existing Martians do not exist", which of course is self-contradictory. But statements attributing existence or nonexistence to a thing, Knasas says, do not function logically in the

[19] Kenny, *Aquinas on Being*, p. 45.

[20] Klima, "Aquinas vs. Buridan on Essence and Existence", p. 33.

[21] John F. X. Knasas, *Being and Some Twentieth-Century Thomists* (New York: Fordham University Press, 2003), pp. 202–3. See John F. X. Knasas, "Haldane's Analytic Thomism and Aquinas's *Actus Essendi*", in *Analytical Thomism: Traditions in Dialogue*, ed. C. Paterson and M. S. Pugh (Aldershot: Ashgate, 2006), pp. 233–51.

same way other attributive statements do. In particular, their subjects are grasped in an existence-neutral way. In the case at hand, our mere grasp of the concept *Martians* does not by itself entail either a judgment that they exist or a judgment that they do not, but leaves the question open. "Martians do not exist" thus says, not "The existing Martians do not exist", but rather something like "Martians, which are of themselves existentially neutral, do not in fact exist." In general, for the Thomist, when the mind grasps the essence of a thing, it grasps it as something distinct from its existence (or lack thereof), even if that of which the existence is ultimately predicated is the thing itself and not a mere concept.[22]

There is, in any event, ample reason to doubt that the notion of "specific existence" captures everything that needs to be captured by an analysis of existence. Consider that when we are told that "cats exist" means that "there is at least one x such that x is a cat" or that something falls under the concept *being a cat*, there is still the question of *what makes this the case*, of what it is exactly *in virtue of which* there is something falling under this concept. And the answer to this further question is, as Knasas and others have pointed out, what the Thomist is getting at when he argues that the existence of a thing is distinct from its essence (in this case, from the essence of a cat), and must be imparted to it, so as to actualize what is otherwise merely potential, if the thing is to be real.[23]

A real distinction or merely conceptual distinction?

One of the arguments considered above for the real distinction between a thing's essence and its existence rested on the premise that we can know a thing's essence without knowing whether or not it exists. But a critic might object that the inference to a real distinction

[22] That we can predicate existence of a thing doesn't entail that it is a *property* or other accident, however. It is, from the Thomist's point of view, *not* a property or accident, for a thing can have properties or other accidents only if it first exists. Treating existence neither in Frege's terms nor as a property or accident might sound odd to some contemporary philosophers, but that only shows, from the Thomist's point of view, how impoverished and Procrustean is the conceptual machinery they bring to bear on metaphysical questions. See Oderberg, *Real Essentialism*, pp. 124–25.

[23] See David Braine, "Aquinas, God, and Being", in Paterson and Pugh, *Analytical Thomism*, pp. 1–24; Gaven Kerr, *Aquinas's Way to God: The Proof in* De Ente et Essentia (Oxford: Oxford University Press, 2015), pp. 72–73; and William F. Vallicella, "A Critique of the Quantificational View of Existence", *The Thomist* 47 (1983): 253–54.

is invalid, on the grounds that what logicians call the "substitutivity of identicals" breaks down in intentional contexts. Aspirin is acetylsalicylic acid, but if I know that aspirin is a pain reliever, it does not follow that I know that acetylsalicylic acid is a pain reliever. The *concept* of aspirin is distinct from the *concept* of acetylsalicylic acid, which is why I might know the first without knowing the second, but this does not entail that aspirin and acetylsalicylic acid are distinct. Similarly, the critic might argue, I might know what a lion or a unicorn is without knowing whether they exist, but it does not follow that the essence of either a lion or a unicorn is different from its existence. What is true is merely that the *concept* of a lion is different from the *concept* of its existence, and the *concept* of a unicorn different from the *concept* of its existence.[24]

But in response to this sort of objection, Klima points out that the lesson we should draw from a breakdown of the substitutivity of identicals in an intentional context depends on whether or not the concepts involved are *logically independent*. Even if I clearly and fully grasp the concept of aspirin, I might know that something is aspirin without knowing that it is currently less popular an analgesic than acetaminophen. That is not surprising given that the concept of aspirin is logically independent of the concept of being currently less popular an analgesic than acetaminophen. But suppose I have only some vague and confused knowledge of what aspirin is. For example, I may know only that it is some sort of chemical substance commercially sold for the purpose of relieving pain, but know nothing about its chemistry. In that case I certainly might know that something is aspirin without knowing that it is acetylsalicylic acid. However, if I have *complete* knowledge of the chemical essence of aspirin, I could *not* fail to know that it is acetylsalicylic acid. For the concept of aspirin, when clearly and fully grasped, is *not* logically independent of the concept of acetylsalicylic acid.

Now, if the essence of some thing—a lion, say—were really identical to its existence, then the situation should be like this latter case. That is to say, a clear and complete knowledge of a lion's essence should entail knowledge of its existence. Yet it is *not* true of a lion, or

[24] Klima considers and responds to this objection in "Aquinas vs. Buridan on Essence and Existence". See the discussion of Klima's article in my review of Bolyard and Keele's anthology *Later Medieval Metaphysics* (in which Klima's article appears) in *Metaphysica* 16 (2015): 131–37.

a stone, or a tree, or of any of the other things of our experience, that if we had a clear and complete knowledge of its essence, we would know its existence.

The critic might respond that this begs the question in supposing that even a full and complete knowledge of some thing's essence wouldn't yield knowledge of its existence. But as Klima points out, a charge of circularity against an argument can be rebutted if we have independent reason to believe the premises. In this case, as Klima notes, if I know the essence of some thing which is of a certain kind, then I will know a priori of any other thing of that kind that does exist, has existed, will exist, or could exist that it will have the attributes entailed by being a thing of that kind. But I will not know a priori whether any other thing of that kind in fact does exist, has existed, or will exist. I could know that only a posteriori. Now, this gives us a reason to think that knowing the essence of a thing does not entail knowing its existence, and it is a reason I could have whether or not it even occurs to me to ask about whether essence and existence are identical. Hence, I could accept the Thomistic argument for the real distinction without begging the question.

A point made earlier is also relevant to answering the critic's allegation of circularity. Suppose I know that aspirin is a pain reliever but not that it is acetylsalicylic acid. Then I have an incomplete conception of what aspirin is, but I have not *mis*conceived of what aspirin is. However, if I judge that aspirin is *not* acetylsalicylic acid, then I *have* misconceived of what it is. By contrast, if I judge that aspirin does not exist, then while I have judged falsely, I have not misconceived of *what* aspirin is. Now, this sort of example gives one reason to believe that correctly conceiving of a thing's essence can come apart from knowing whether it exists, and it does so whether or not it has occurred to one to ask whether essence and existence are identical. Hence, we have another non-question-begging reason for thinking that full and complete knowledge of a thing's essence would not entail knowledge of its existence.

Do things really have essences?

Just as some have raised questions about the "existence" side of the distinction between essence and existence, so too might some critics raise questions about the "essence" side. Recall that the essence of a

thing is its nature, that whereby it is *what* it is. For the Thomist, it is what we grasp intellectually when we identify a thing's *genus* and *specific difference*. Again, the traditional definition of a human being as a rational animal gives *animal* as the genus under which human beings fall and *rationality* as that which differentiates human beings as the species they are within that genus (hence "specific difference"). If the definition is correct, it gives us the essence of a human being.

That we describe things *as if* they have essences is obvious. It is also obvious that the essences of some things are at least in part the product of convention. What makes something a carburetor or a can opener, for example, is determined by the purposes for which we make such artifacts. For Thomists and many other philosophers, however, the essences of at least some things, and in particular of natural objects or substances, are real or mind-independent as opposed to merely being the product of convention. *Essentialism* is the thesis that there are such real essences.[25]

But can it be *proven* that natural objects have real, mind-independent essences or natures? Might a critic not hold instead that *all* essences are conventional? One way to approach this issue would be to follow Aristotle's view, expressed in book 2 of the *Physics*, that it would be absurd to try to prove that things have natures. The idea is not that it is *doubtful* that things have natures or essences, but rather that it is *obvious* that they do—indeed, that the belief that things have essences is more obviously correct than any argument that can be given for or against it. As with Hume's challenge to the principle of causality, it is (so the Thomist would argue) only by making highly controversial and indeed dubious philosophical assumptions that the reality of essence could seriously be doubted.

Since there *are* those who doubt it, though, more needs to be said.[26] To begin with, we can note that the world is just the way

[25] Readers of the Thomist thinker Etienne Gilson should not confuse this with the "essentialism" of which he was famously critical. Gilson's target was the rationalist tendency to try to read off reality from essences considered in the abstract, as objects of thought. To this he contrasted the "existentialism" of Aquinas, for whom knowledge of real concrete existents must come through experience. There is nothing in essentialism as I have characterized it that entails rationalism of this sort, and Aquinas was clearly as much an "essentialist" in my sense as he was an "existentialist" in Gilson's sense.

[26] For detailed defense of essentialism, see Feser, *Scholastic Metaphysics*, chap. 4, and Oderberg, *Real Essentialism*.

we would expect it to be if things really have essences. In particular, things exhibit the *unity* we would expect them to if they had real essences, in two respects.[27] For one thing, they are related to one another in a way that exhibits unity. This oak tree, that one, and the other one are united in a way they are not united to stones, dogs, or people; this polar bear, that one, and the other one are united to one another in a similar way; this sample of copper, that one, and a third one are so united as well; and so on. These groups of things manifest common causal powers and other properties in just the way we would expect if there were a common real essence or nature they all instantiated, but which would be mysterious—indeed, it would seem to be a miracle—if their being grouped together was merely a matter of human convention. For another thing, each individual thing exhibits a unity of its own. An oak, a polar bear, and a sample of copper will each behave over time in a uniform and predictable manner, exhibiting characteristic properties and patterns of operation, persisting despite changes in superficial features, and having parts that function in an integrated way. This too is just what we would expect if each of these things had a real essence or nature, and would be mysterious if what we thought of as their essences were merely a matter of human convention.

Of course, whether certain natural objects really should be grouped into the same class or not, and exactly which properties and operations a given object persistently exhibits, might sometimes be difficult questions to settle. Precisely *what* a thing's essence is is by no means always easy to determine. But these considerations by themselves do not cast doubt on the reality of essence. Common caricatures aside, no serious essentialist believes that the natures of things can always be discovered easily—from the armchair as it were, or from everyday experience. What is at issue at the moment is in any case not *what* the essences of various things are or whether we can always discover them, but whether they are nevertheless *there* even if we cannot always discover what they are. And the point is that the unity and order of things would be mystifying if essence were not a pervasive feature of mind-independent reality.

That much is evident from common sense. But both the practice and results of modern science reinforce the point. As to the

[27] Oderberg, *Real Essentialism*, pp. 44–47.

practice, philosophers of science of what is sometimes called the "new essentialist" school have (as the name implies) argued that physical science is in the business of discovering the essences as well as the causal powers of things, insofar as the powers science aims to uncover are powers things have *essentially*. As Nancy Cartwright emphasizes, the sorts of regularities the hard sciences tend to uncover are rarely observed, and in fact are in ordinary circumstances impossible to observe.[28] Beginning students of physics quickly become acquainted with idealizations like the notion of a frictionless surface, and with the fact that laws like Newton's law of gravitation strictly speaking describe the behavior of bodies only in the circumstance where no interfering forces are acting on them, a circumstance which never actually holds. Moreover, physicists do not in fact embrace a regularity as a law of nature only after many trials, after the fashion of popular presentations of inductive reasoning. Rather, they draw their conclusions from a few highly specialized experiments conducted under artificial conditions. This is exactly what we should expect if what science is concerned with is discovering the hidden natures of things. Actual experimental practice indicates that what physicists are really looking for are the powers a thing will manifest when interfering conditions are removed, and the fact that a few experiments, or even a single controlled experiment, are taken to establish the results in question indicates that these powers are taken to reflect a nature that is universal to things of that type. Writes Cartwright: "Modern experimental physics looks at the world under precisely controlled or highly contrived circumstance; and in the best of cases, one look is enough. That, I claim, is just how one looks for natures."[29]

Philosopher of science Brian Ellis takes the view (which I briefly discussed in chapter 1) that essences are necessary in order to ground laws of nature.[30] And as Ellis also notes, the actual results of modern science (let alone the practice or method) support the claim that there are *natural kinds* of thing, each with its own essence:

[28] See Nancy Cartwright, "Aristotelian Natures and the Modern Experimental Method", in *Inference, Explanation, and Other Frustrations: Essays in the Philosophy of Science*, ed. John Earman (Berkeley and Los Angeles: University of California Press, 1992); and Nancy Cartwright, *The Dappled World: A Study of the Boundaries of Science* (Cambridge: Cambridge University Press, 1999), chap. 4.

[29] Cartwright, *Dappled World*, p. 102.

[30] See Brian Ellis, *Scientific Essentialism* (Cambridge: Cambridge University Press, 2001), and Brian Ellis, *The Philosophy of Nature: A Guide to the New Essentialism* (Chesham: Acumen, 2002).

> Every distinct type of chemical substance would appear to be an example of a natural kind, since the known kinds of chemical substances all exist independently of human knowledge and understanding, and the distinctions between them are all real and absolute. Of course, we could not have discovered the differences between the kinds of chemical substances without much scientific investigation. But these differences were not invented by us, or chosen pragmatically to impose order on an otherwise amorphous mass of data. There is no continuous spectrum of chemical variety that we had somehow to categorize. The chemical world is just not like that. On the contrary, it gives every appearance of being a world made up of substances of chemically discrete kinds, each with its own distinctive chemical properties. To suppose otherwise is to make nonsense of the whole history of chemistry since Antoine Lavoisier.[31]

The view that *all* essences are conventional is, in any event, ultimately incoherent, as has been pointed out by philosopher Crawford Elder.[32] The conventionalist holds that a thing's essence, that whereby it is what it is, is a product of our ways of thinking, our linguistic habits, and so forth. It is, in short, *mind-dependent*. But for the consistent conventionalist this would have to be as true of the human mind itself (whether we identify the mind with the brain or think of it as something immaterial) as it is of everything else. That is to say, what makes the mind what *it* is would have to be mind-dependent—dependent on our ways of thinking, linguistic conventions, and so forth. But for something to be mind-dependent entails that it *presupposes*, and is thus *posterior to* (ontologically if not temporally), the existence of the mind. Yet the mind will necessarily be *prior to* that which depends upon it, to that which exists only relative to its ways of thinking and linguistic habits. Hence, the consistent conventionalist will have to say that the mind is both prior to itself and posterior to itself. But this makes no sense.

So, we cannot coherently take a conventionalist view about our *own* essence, or at least about the essence of our minds. That there is

[31] Brian Ellis, *The Metaphysics of Scientific Realism* (Montreal and Kingston: McGill-Queen's University Press, 2009), p. 59. To be sure, while Ellis finds ample grist for the essentialist mill in physics and chemistry, he would not extend essentialism to biological kinds. But other contemporary essentialists would. See e.g., Oderberg, *Real Essentialism*, chaps. 8 and 9.

[32] Crawford L. Elder, *Real Natures and Familiar Objects* (Cambridge, Mass.: MIT Press, 2004), chap. 1.

at least *one* real essence, *our* essence, cannot be denied. And Elder's point can be supplemented as follows. The arguments for conventionalism would, if they had any force at all, apply to us just as much as to anything else. Yet we know they are wrong when applied to us. What reason can we have, then, to take them seriously when applied to other things?

In any event, that the essences of at least *some* natural objects are mind-independent rather than conventional suffices for purposes of the Thomistic proof of God's existence. Even if it turned out that the essences of other natural objects are conventional, that would no more be a difficulty for the proof than is the fact that the essence of a carburetor or a can opener is conventional. Suppose, for example, that it turned out that the essence of a dog is a matter of convention. What really exist objectively (so it might be claimed) are only physical particles of certain sorts, and when the particles are arranged in such-and-such a way, the human mind applies the concept *dog* to them. Even in this case, the physical particles *themselves* would have a nonconventional essence, and so too (as we have seen) would the human mind which applies the concept *dog* to arrangements of these particles. And the essence of each of these things would be really distinct from its existence, which opens the door to the reasoning of the Thomistic proof.

So, the objections to the Thomistic argument all fail, leaving us with a fourth proof of the existence of God.

5

The Rationalist Proof

Informal statement of the argument: Stage 1

Common sense and science alike suppose that there are explanations for the existence of the things we encounter, the attributes things exhibit, and the events that occur. And typically we find that this is indeed the case. You find an unfamiliar pair of sunglasses lying on your sofa, and after asking around you determine that they were inadvertently left there by a visiting friend. You notice a rash on your arm and upon reflection realize that you probably brushed up against some poison oak during a recent hike. You hear a series of scratching sounds coming from the roof above and find upon investigation that it was made by a neighborhood cat or a family of raccoons. Biologists explain the origin of new forms of life in terms of mutation and natural selection. Physicists explain the temperature of water in terms of mean molecular kinetic energy, and the orbits of the planets in terms of Kepler's laws of planetary motion. Even when we don't find an explanation, we don't doubt that there is one, and we often at least *do* have an explanation of the fact that we don't have an explanation of whatever it is we are investigating. For example, when a murder remains unsolved, we know that the reason is that the murderer was very careful to avoid leaving fingerprints, to make sure there were no witnesses, to hide the body so that it would take a long time to find it, and so forth.

But does *everything* in fact *have* an explanation, even if it's an explanation we haven't discovered and never will discover? The thesis that this is the case is known as the *principle of sufficient reason*, or PSR for short. This principle is most famously associated with the early modern rationalist philosopher G. W. Leibniz, but has been formulated in

many ways by writers of diverse philosophical commitments. Two characteristic Thomistic formulations would be "everything which is, has a sufficient reason for existing" and "everything is intelligible."[1] A third is that "there is a sufficient reason or adequate necessary objective explanation for the being of whatever is and for all attributes of any being."[2]

PSR is reminiscent of the *principle of causality*, which we've considered in previous chapters, but it is important to emphasize that they are distinct principles. One difference is that, while a cause must be distinct from its effect, there need not be a distinction between a sufficient reason and that for which it is a sufficient reason. That is to say, though nothing can be the cause of itself, there could in principle be something which is self-explanatory. (Whether there is in fact such a thing is a question we'll address presently.) A related difference is that while (as we have seen) the principle of causality does not entail that everything has a cause, PSR does entail that everything has a sufficient reason. Everything which has a cause has its sufficient reason in something distinct from it, whereas if there is something which does not have a cause, it would have to have its sufficient reason in itself. All causes are reasons in the sense of making their effects intelligible, but not all reasons are causes.

Why should we believe PSR? One important argument for it is a variation on the empirical argument for the principle of causality we considered in chapter 1. Considered as an inductive generalization, PSR is as well supported as any other. For one thing (and as noted already) we do in fact tend to find explanations when we look for them, and even when we don't, we tend to have reason to think there is an explanation but just one to which, for whatever reason (e.g., missing evidence), we don't have access. For another thing, the world simply doesn't behave the way we would expect it to if PSR were false.[3] Events without any evident explanation would surely be

[1] Reginald Garrigou-Lagrange, *God: His Existence and His Nature; A Thomistic Solution of Certain Agnostic Antinomies*, vol. 1 (St. Louis: B. Herder, 1939), p. 181.

[2] Bernard Wuellner, *Summary of Scholastic Principles* (Chicago: Loyola University Press, 1956), p. 15.

[3] Alexander R. Pruss, "The Leibnizian Cosmological Argument", in *The Blackwell Companion to Natural Theology*, ed. William Lane Craig and J. P. Moreland (Oxford: Wiley-Blackwell, 2009), p. 32.

occurring constantly, and the world would simply not have the intelligibility that makes science and everyday common sense as successful as they are. That the world is as orderly and intelligible as it is would be a miracle if PSR were not true.

But PSR is far more certain than a mere empirical hypothesis can be. If it seems difficult to prove, that is not because it is doubtful, but on the contrary because it is more obviously true than anything that could be said either for or against it. As Reginald Garrigou-Lagrange writes, "Though it cannot be directly demonstrated, it can be indirectly demonstrated by the indirect method of proof known as *reductio ad absurdum*."[4] One way in which this might go is suggested by some remarks made by Alexander Pruss, who was in turn developing a point made by Robert Koons.[5] Denying PSR, Pruss notes, entails radical skepticism about perception. For if PSR is false, then there might be no reason whatsoever for our having the perceptual experiences we have. In particular, there might be no connection at all between our perceptual experiences and the external objects and events we suppose cause them. Nor would we have any grounds for claiming even that such a radical disconnect between our perceptions and external reality is improbable. For objective probabilities depend on the objective tendencies of things, and if PSR is false, then events might occur in a way that has nothing to do with any objective tendencies of things. Hence, one cannot consistently deny PSR and be justified in trusting the evidence of sensory perception, nor the empirical science grounded in perception.

Of course a determined critic of PSR might suppose he can bite the bullet and accept perceptual skepticism, but the Pruss/Koons line of argument can be pushed further than they push it. Consider that whenever we accept a claim that we take to be rationally justified, we suppose not only that we have a reason for accepting it (in the sense of a rational justification) but also that this reason is the reason *why* we accept it (in the sense of being the cause or explanation of our accepting it). We suppose that it is *because* the rational considerations

[4] Garrigou-Lagrange, *God*, p. 181.

[5] Pruss, "Leibnizian Cosmological Argument", p. 28; see also Robert C. Koons, *Realism Regained: An Exact Theory of Causation, Teleology, and the Mind* (Oxford: Oxford University Press, 2000), p. 110.

in favor of the claim are good ones that we are moved to assent to the claim. We also suppose that our cognitive faculties track truth and standards of rational argumentation, rather than leading us to embrace conclusions in a way that has no connection to truth or logic. But if PSR is false, we could have no reason for thinking that any of this is really the case. For all we know, what moves or causes us to assent to a claim might have absolutely nothing to do with the deliverances of our cognitive faculties, and our cognitive faculties themselves might in turn have the deliverances they do in a way that has nothing to do with truth or standards of logic. We might believe what we do for no reason whatsoever, and yet it might also falsely *seem*, once again for no reason whatsoever, that we do believe what we do on good rational grounds. Now, this would apply to any grounds we might have for doubting PSR as much as it does to any other conclusion we might draw. Hence, to doubt or deny PSR undercuts any grounds we could *have* for doubting or denying PSR. The rejection of PSR is therefore self-undermining. Even the critic of PSR willing to embrace perceptual skepticism and retreat into a redoubt of a priori knowledge will find no shelter there. To reject PSR is to undermine the possibility of *any* rational inquiry.

There is another way in which science in particular implicitly presupposes PSR. Some philosophers have taken the view that there can be genuine explanations, including scientific explanations, even if PSR is false. One finds such a view in J. L. Mackie and Bertrand Russell.[6] The idea is that we can explain at least some phenomena in terms of laws of nature, those laws in terms of more fundamental laws, and perhaps these in turn of some most fundamental level of laws. The most fundamental laws would, however, lack any explanation. That the world is governed by them would just be an unintelligible "brute fact".

But this is incoherent. Suppose I told you that the fact that a certain book has not fallen to the ground is explained by the fact that it is resting on a certain shelf, but that the fact that the shelf itself has not fallen to the ground has no explanation at all but is an unintelligible

[6] J. L. Mackie, *The Miracle of Theism* (Oxford: Clarendon Press, 1982), pp. 84–87; Bertrand Russell and F. C. Copleston, "A Debate on the Existence of God", in *The Existence of God*, ed. John Hick (New York: Macmillan, 1964), pp. 168–78.

brute fact. Have I really explained the position of the book? It is hard to see how. For the shelf has in itself no tendency to stay aloft—it is, by hypothesis, just a brute fact that it does so. But if it has no such tendency, it cannot impart such a tendency to the book. The "explanation" the shelf provides in such a case would be completely illusory. (Nor would it help to impute to the book some such tendency, if the having of the tendency is *itself* just an unintelligible brute fact. The illusion will just have been relocated, not eliminated.)

By the same token, it is no good to say: "The operation of law of nature C is explained by the operation of law of nature B, and the operation of B by the operation of law of nature A, but the operation of A has no explanation whatsoever and is just an unintelligible brute fact." The appearance of having "explained" C and B is completely illusory if A is a brute fact, because if there is neither anything about A itself that can explain A's own operation nor anything beyond A that can explain it, then A has nothing to impart to B or C that could possibly explain their operation. The notion of an explanatory nomological regress terminating in a brute fact is, when carefully examined, no more coherent than the notion of an effect being produced by an instrument that is not the instrument of anything. (A series of ever more fundamental "laws of nature" is in this regard like a hierarchical causal series of the sort discussed in earlier chapters.)

So, rational inquiry in general, and scientific inquiry in particular, presuppose PSR. A further argument which supports this judgment has been put forward by philosopher Michael Della Rocca.[7] Della Rocca notes that even among philosophers who reject PSR, philosophical theses are often defended by recourse to what he calls "explicability arguments". An explicability argument (I'll use the abbreviation EA from here on out) is an argument to the effect that we have grounds for denying that a certain state of affairs obtains if it would be inexplicable or a "brute fact". Della Rocca offers a number of examples of this strategy. When materialist philosophers of mind defend some reductionist account of consciousness on the grounds that consciousness would (they say) otherwise be inexplicable, they are deploying an EA. When early modern philosophers rejected the Aristotelian notion of substantial form (or what Aristotelians would

[7] Michael Della Rocca, "PSR", *Philosophers' Imprint* 10 (2010): 1–13.

regard as a *caricature* of that notion, anyway), they did so on the grounds that the notion was insufficiently explanatory. When philosophers employ inductive reasoning, they are essentially rejecting the claim that the future will not be relevantly like the past nor the unobserved like the observed, on the grounds that this would make future and otherwise unobserved phenomena inexplicable. And so forth.

Now, Della Rocca allows that to appeal to an EA does not by itself commit one to PSR. But suppose we apply the EA approach to the question of *why things exist*. Whatever we end up thinking the correct answer to this question is—it doesn't matter for purposes of Della Rocca's argument—if we deploy an EA in defense of it, we *will* implicitly be committing ourselves to PSR, he says, because PSR just is the claim that the existence of anything must have an explanation.

In responding to these different examples of EAs, one could, says Della Rocca, take one of three options:

1. Hold that some EAs are legitimate kinds of argument, while others—in particular, any EA for some claim about why things exist at all—are not legitimate.
2. Hold that no EA for any conclusion is legitimate.
3. Hold that all EAs, including any EA for a claim about the sheer existence of things, are legitimate kinds of argument.

Now, the critic of PSR cannot take option no. 3, because that would, in effect, be to accept PSR. Nor could any critic of PSR who applies EAs in defense of other claims—and the EA approach is, as Della Rocca notes, a standard move in contemporary philosophy (and indeed, in science)—take option no. 2.

So, that leaves option no. 1. The trouble, though, is that there doesn't seem to be any non-question-begging way for the critic of PSR to defend option no. 1. For why should we believe that EAs are legitimate in other cases, but not when giving some account of the sheer existence of things? It seems arbitrary to allow the one sort of EA but not the other sort. The critic of PSR cannot respond by saying that it is just a brute fact that some kinds of EAs are legitimate and others are not, because this would beg the question against PSR, which denies that there are any brute facts. Nor would it do for the critic to say that it is just *intuitively* plausible to hold that EAs are

illegitimate in the case of explaining the sheer existence of things, since Della Rocca's point is that the critic's acceptance of EAs in other domains casts doubt on the reliability of this particular intuition. Hence, to appeal to intuition would also be to beg the question.

So, Della Rocca concludes that there seems no cogent way to accept EAs at all without accepting PSR. The implication is that we can have no good reason to think *anything* is explicable unless we also admit that *everything* is.

Della Rocca's argument can, in my view, be pushed even further than he pushes it. Della Rocca allows that while it would be "extremely problematic" for someone to bite the bullet and take option no. 2, it may not be strictly "logically incoherent" to do so. However, I think this is too generous to the critic of PSR. Even if the critic decides to reject the various specific examples of EAs cited by Della Rocca—EAs concerning various claims about consciousness, substantial forms, and the like—the critic will still make use of various patterns of reasoning he considers formally valid or inductively strong, will reject patterns of reasoning he considers fallacious, and so forth. And he will do so precisely because these principles of logic embody standards of intelligibility or explanatory adequacy.

To be sure, it is a commonplace in logic that not all explanations are arguments, and it is also sometimes claimed (less plausibly, I think) that not all arguments are explanations. But certainly *many* arguments are explanations. What Aristotelian philosophers call "explanatory demonstrations" (e.g., a syllogism like *All rational animals are capable of language, all men are rational animals, so all men are capable of language*) are explanations. Arguments to the best explanation are (obviously) explanations, and as Della Rocca notes, inductive reasoning in general seems to presuppose that things have explanations.

So, to give up EAs of *any* sort (option no. 2) would seem to be to give up the very practice of argumentation itself, or at least much of it. Needless to say, it is hard to see how doing *that* could fail to be logically incoherent, at least if one tries to defend one's rejection of PSR with arguments. Hence, to accept the general practice of giving arguments while nevertheless rejecting EAs of the specific sorts Della Rocca gives as examples would really be to take Della Rocca's option no. 1 rather than option no. 2. And as we have seen, there is no non-question-begging reason to accept no. 1.

So, we have the best of reasons to affirm the principle of sufficient reason. Now, the explanation of anything is going to be found either in the thing's own nature, or in something outside it. In the latter case, we can say that the thing is *contingent*—that it depends on circumstances outside itself, and thus will not exist if those circumstances do not hold. In the former case, we can say that the thing is *necessary*—that there is something in its own nature that entails that it cannot fail to exist, so that it depends on nothing outside itself. There is no third possibility. If a thing is explained neither by its own nature nor by anything outside itself, then it would be explained by nothing at all. But something's having no explanation at all is ruled out by PSR.

Now, we know that there are contingent things, since they are all around us—stones, trees, dogs, human beings, and so on. Might *everything* be contingent? Suppose that for every contingent thing, there is some other contingent thing that caused it. Suppose that this series of contingent things regresses infinitely. There are different ways in which the details of this scenario might be spelled out. We might think in terms of a beginningless universe, in which contingent thing A was caused by some previously existing contingent thing B, which in turn was caused by some previously existing contingent thing C, and so on, in this fashion forever into the past, without there being in any sense a start to the series. Or we may think in terms of a series that is like this one except that this particular universe of contingent things *does* have a beginning, at the Big Bang—but where the Big Bang was in turn the result of some previously existing universe imploding in a Big Crunch. We can then imagine that previously existing universe having come into existence with a Big Bang of its own, which had been the result of the implosion of some yet earlier universe. And we might suppose that there has been an infinite series of universes, each arising with a Big Bang and ending with a Big Crunch which generates the next Big Bang. We might also suppose that during the life span of a universe, other universes branch off from it, carrying on after it collapses in on itself. We can imagine this process resulting in a "multiverse", a series of parallel universes preceded by other parallel universes which were preceded by yet others, with no beginning.

Exactly how these details go doesn't matter for present purposes, however. What matters is that we would have in each case some

variation on an infinite series of contingent things. Let's allow for the sake of argument that such a series is possible. It might seem that if there is such a series, then we would have an explanation for everything, just as PSR requires, and without affirming the existence of a necessary being. For every contingent thing will be explained by some previously existing contingent thing. Hence, there will be no need to posit anything that exists in a necessary way. David Hume famously draws precisely this conclusion in his *Dialogues Concerning Natural Religion.*

But this is an illusion. Not *everything* that requires explanation is in fact explained on this scenario. There are several ways of seeing how this is so, beginning with a consideration emphasized by the rationalist philosophers Leibniz and Samuel Clarke. Even if there is an infinite series of contingent things, each caused by a previous one, there is still the question of why the series *itself* exists at all. For the series is just as contingent as the individual contingent things that make it up are. It could have failed to exist; so why doesn't it?[8]

It is sometimes claimed that there is something illegitimate about this question, but the reasons given for this judgment are not good ones. For example, it is sometimes alleged that the question rests on a fallacy of composition. If each stone in a certain collection of stones weighs less than an ounce, it doesn't follow that the entire collection weighs less than an ounce. Similarly, if each individual thing in a series is contingent, then (so it is claimed) it doesn't follow that the series as a whole is contingent. But as we saw in the previous chapter, this argument is a bad one. Not every inference from part to whole commits a fallacy of composition. Whether such a fallacy is committed depends on what sort of feature of the parts we are reasoning about. Where weight is concerned, we can't validly reason

[8] This is sometimes, and famously, put by asking, why is there something rather than nothing? However, this is a potentially misleading way of framing the issue, since some interpret this question as implying that there could, at least in theory, have been nothing at all. And the arguments of the previous chapters, as well as the argument of this one, imply that it is *not* the case that there could have been nothing. What is purely actual, what is absolutely simple or noncomposite, what grounds all necessity and possibility, what just is subsistent existence itself, and what exists in an absolutely necessary way could not possibly have not existed—in which case, if there really is something that fits these descriptions, then it is not true that there could have been nothing at all. The better way of framing the question is, why are there any contingent things at all?

from what is true of the parts to what is true of the whole. But where color (for example) is concerned, we *can* validly reason from the parts to the whole. If each Lego block in a pile of Lego blocks is red, then any object we make out of those blocks will also be red.

Now, contingency is, in the sense that is relevant to the present issue, more like color then it is like weight. Take any contingent thing—a stone, a Lego block, a tree, a human being, whatever. A collection of three stones is obviously no less contingent than a single stone is, and a collection of three hundred or three million stones is obviously no less contingent than the collection of three stones. Indeed, the collections are if anything *more* obviously contingent than the individual stone is. The individual stone is contingent on things like the laws of physics continuing to operate in such a way that the atoms making up the stone don't dissipate, for example. But the collection is dependent *both* on all of its component stones being gathered together in just the way they are, *and* on each individual stone in the collection existing insofar as the laws of physics continue to operate in such a way that the atoms making up the stone don't dissipate, for example. The collection is thus *doubly* contingent. It is quite silly to pretend, then, that when we get to the collection of all the stones there are, or all the contingent things there are, we might somehow suddenly have something that is *not* contingent.

Moreover, it is simply false to suppose (as Hume does) that when, for each individual contingent thing, we've identified some further contingent thing as its immediate cause, then we've explained everything that there is to explain. To borrow an example from Leibniz, suppose there were an infinite series of geometry books, each one of which was copied from a preexisting one.[9] We would have an immediate cause for each book, but obviously we would not have explained everything. For example, why does the series of books have the specific *content* that it has rather than some other content? Why is it that *geometry* is the subject matter of each of them? Why isn't it instead a book of Shakespeare plays, or a coloring book, or an automotive repair manual, that gets copied and recopied infinitely? By the same token, even if we suppose that the series of contingent things that make up our universe in one way or other extends

[9] G. W. Leibniz, "On the Ultimate Origination of Things" (essay, 1697).

backward infinitely, we still have not explained everything. For example, why does the series consist of just the specific kinds of contingent things it does, rather than some other kinds? Why is it stones, trees, dogs, human beings, planets, stars, solar systems, galaxies, and so forth, that make up the infinite series of contingent things that we actually have? Why not some other sorts of contingent things entirely? Why is our infinitely old universe (supposing that it is infinitely old), or the infinite series of universes (if we suppose instead that there is such a series), or the multiverse (if we suppose that *that* is the correct scenario), governed by exactly the laws of nature which do in fact govern it, rather than some other laws?

To answer such questions, we need to appeal to something over and above the series of contingent things, *even if* we suppose the series to regress infinitely. Now, someone might acknowledge this but still think that we need not affirm the existence of a necessary being. He might say that there is a cause of the entire infinite contingent series we happen to have, which lies outside that series but is *itself* contingent. But the problem with this proposal, of course, is that since such a cause is contingent, it would require a cause of its own. And if that cause is also contingent, then it will require a cause of *its* own, and the same will be true of any further cause which is contingent. And if we postulate an infinite series of such higher-order contingent causes, then we will have just *relocated* the problem we were trying to solve, rather than *solved* that problem. We will be explaining one infinite series of contingent causes in terms of a second higher-order infinite series of contingent causes. And the reasons why we had to move beyond the first series to the second one will apply to the second one as well—which means that, if we still want to avoid affirming a necessary being, we will have to posit a *third* infinite series of contingent causes in order to explain the second, a *fourth* in order to explain the third, and so on ad infinitum. And each time we will merely be passing the explanatory buck rather than explaining anything. For the same reason why the first infinite series of contingent causes was insufficient will apply to the second, the third, the fourth, and indeed even to an *infinite series of infinite series* of contingent causes.

Thus, as rationalist philosophers like Leibniz and Clarke concluded, given PSR, there is no way to avoid the conclusion that there is a cause outside the series of contingent things which is not

contingent but *necessary*—something which of its nature could not possibly have not existed and which therefore depends on nothing else for its existence. Nothing less than such a necessary being could possibly terminate the regress of explanation.

One need not proceed exactly the way Leibniz and Clarke do, however—namely, by asking for a cause of the collection of contingent things as a whole. One could instead proceed as follows. Suppose once again, for the sake of argument, that the series of contingent things extends backward infinitely—whether we spell this out in terms of a beginningless universe, or a series of universes, or a multiverse, or whatever. We still need to ask of any particular contingent thing why it *stays* in existence at any moment at which it exists, rather than being annihilated. That is not a question that is answered by identifying the contingent thing that generated it at some point in the past. After all, being contingent, there is nothing in its nature that entails its existence, and that is as true *now* and at any other moment as it was when it was first generated. So, given that there is nothing in its nature that can explain why it exists here and now, why does it?

To explain why it exists here and now, then, we will, given PSR, have to appeal to something which *causes* it to exist here and now. And if that cause is a contingent one, then we will need to ask the same question about *it*. The regress of *simultaneous* causes this entails will have the same problems as the regress of temporally ordered causes we were considering when discussing Leibniz's and Clarke's line of argument. That is to say, as long as we confine ourselves to contingent causes, we will be led into an infinite regress of such causes, and thus to something—the simultaneous causal series considered as a whole—which will require an explanation outside itself no less than did the particular contingent thing we started out with. The only way to terminate the regress of explanations and thus satisfy PSR is by affirming the existence of a cause which exists *necessarily*, of its own nature rather than by virtue of something else. And in this case, we will have arrived at that conclusion, not by asking for an explanation of the universe as a whole, or the series of universes, or the multiverse, or anything else as fancy as that. Rather, we will have arrived at it merely from a consideration of the question of what explains the existence here and now of some particular contingent thing.

Needless to say, this way of formulating the argument is reminiscent of the Aristotelian, Neo-Platonic, and Thomistic arguments we have considered in earlier chapters. And one can take the argument of this chapter, and the arguments of those earlier chapters, to complement one another. The deep reason why the things of our experience are contingent, and thus require an explanation outside themselves—both for their being generated by preceding causes, and for their continuing in existence at any particular moment—is that they are mixtures of actuality and potentiality, are composed of parts, and have essences distinct from their existence. And the deep reason why all such things require causes is that they would not otherwise be intelligible, and in light of PSR we know that all things *are* intelligible.

There are several ways, then, in which the basic thrust of the rationalist proof might be developed. We could proceed by arguing that the collection of contingent things that makes up the universe (or multiverse, or whatever) requires an explanation in terms of some cause distinct from it. Or we could proceed by arguing that the existence of any particular contingent thing requires, at any moment, a cause distinct from it. Or (borrowing from some of the other proofs we have considered) we could proceed by arguing that anything which is a mixture of actuality and potentiality, or composed of parts, or has an essence distinct from its existence, requires, at any moment, a cause distinct from it. However we develop the argument, the rationalist proof begins with a defense of PSR, and shows—via one or more of the routes just described—that, given PSR, we are ineluctably led to the existence of an absolutely necessary being. That is to say, we are ineluctably led to the existence of God.

Informal statement of the argument: Stage 2

Why should we think of the necessary being as God? Consider first that, from the fact that it *is* necessary, it follows that it exists in a purely actual way, rather than by virtue of having potentialities that need to be actualized. For if it had such potentialities, then its existence would be *contingent* upon the existence of something which actualizes those potentialities—in which case it wouldn't really exist in a *necessary* way after all. For the same reason, a necessary being

cannot be composed of parts of any kind, for if were, then its existence would be contingent upon something combining its parts, in which case, again, it wouldn't really be necessary after all. Nor could it be something with an essence distinct from its existence, since in that case it would require a cause which imparts existence to its essence, and thus once again not really be necessary. So, a necessary being in the strictest sense has to be one which is purely actual, absolutely simple or noncomposite, and something which just is subsistent existence itself.[10]

Now we saw in earlier chapters that there cannot even in principle be more than one thing which is purely actual, absolutely simple, or subsistent existence itself. Hence, if we begin with the existence of the collection of contingent things and reason to a necessary being as its cause, we know that there is only one such necessary being. Or, if we begin with the question of what keeps some particular contingent thing in existence at any moment, and reason to a necessary being as its cause—and then go on to note that every other contingent thing will, for the same reason, have to have a necessary being as its sustaining cause at any moment—then since there can only be one necessary being, we know that it is the same one necessary being that is the cause of all contingent beings. Furthermore, since this necessary being is unique in this way, and the only other things there are are contingent things—all of which, again, are caused by the necessary being—we can infer that this necessary being is the cause of everything other than itself.

Furthermore, since, as we saw in previous chapters, what is purely actual, absolutely simple or noncomposite, a necessarily existing intellect, and subsistent existence itself are really all *one and the same thing* arrived at from different starting points, we know that the necessary being that is the cause of all contingent things is—given that

[10] I say "in the strictest sense" because Aquinas and some other writers use the phrase "necessary being" in a broader sense, to connote something which has no natural tendency toward corruption. Hence, angels, like God, would be "necessary" in this sense, since they are of their nature immortal. But they would not in Aquinas' view be necessary in the strictest sense, since—being mixtures of actual and potential, being composed of parts, and having an essence distinct from their existence—they require a cause, as God does not. Hence, for Aquinas they have their necessity only in a derivative or secondary way. See Aquinas' Third Way in *Summa Theologiae* I.2.3, and my discussion of the argument in *Aquinas* (Oxford: Oneworld Publications, 2009), pp. 90–99.

it is something purely actual, noncomposite, and so forth (of which, again, there cannot in principle be more than one)—this same one divine reality arrived at by yet another starting point.

Hence, everything we already said about this one divine reality in earlier chapters—for example, that it is immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent, and omniscient—is true of the necessary being arrived at via the rationalist proof. But for there to be something that is absolutely necessary, one, the uncaused cause of everything other than itself, purely actual, simple or noncomposite, subsistent existence itself, immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent, and omniscient is just what it is for God to exist. So, the rationalist proof leads us, as the other proofs we have considered do, to the existence of God.

A more formal statement of the argument

With the overall thrust of this fifth argument for God's existence having now been made clear, it will be useful once again to have a summary presented in a somewhat more formal way. It might be stated as follows:

1. The principle of sufficient reason (PSR) holds that there is an explanation for the existence of anything that does exist and for its having the attributes it has.
2. If PSR were not true, then things and events without evident explanation or intelligibility would be extremely common.
3. But this is the opposite of what common sense and science alike find to be the case.
4. If PSR were not true, then we would be unable to trust our own cognitive faculties.
5. But in fact we are able to trust those faculties.
6. Furthermore, there is no principled way to deny the truth of PSR while generally accepting that there are genuine explanations in science and philosophy.
7. But there are many genuine explanations to be found in science and philosophy.

8. So, PSR is true.
9. The explanation of the existence of anything is to be found either in some other thing which causes it, in which case it is contingent, or in its own nature, in which case it is necessary; PSR rules out any purported third alternative on which a thing's existence is explained by nothing.
10. There are contingent things.
11. Even if the existence of an individual contingent thing could be explained by reference to some previously existing contingent thing, which in turn could be explained by a previous member, and so on to infinity, that the infinite series as a whole exists at all would remain to be explained.
12. To explain this series by reference to some further contingent cause outside the series, and then explain this cause in terms of some yet further contingent thing, and so on to infinity, would merely yield another series whose existence would remain to be explained; and to posit yet another contingent thing outside this second series would merely generate the same problem yet again.
13. So, no contingent thing or series of contingent things can explain why there are any contingent things at all.
14. But that there are any contingent things at all must have some explanation, given PSR; and the only remaining explanation is in terms of a necessary being as cause.
15. Furthermore, that an individual contingent thing persists in existence at any moment requires an explanation; and since it is contingent, that explanation must lie in some simultaneous cause distinct from it.
16. If this cause is itself contingent, then even if it has yet another contingent thing as its own simultaneous cause, and that cause yet another contingent thing as its simultaneous cause, and so on to infinity, then once again we have an infinite series of contingent things the existence of which has yet to be explained.
17. So, no contingent thing or series of contingent things can explain why any particular contingent thing persists in existence at any moment; and the only remaining explanation is in terms of a necessary being as its simultaneous cause.

18. So, there must be at least one necessary being, to explain why any contingent things exist at all and how any particular contingent thing persists in existence at any moment.
19. A necessary being would have to be purely actual, absolutely simple or noncomposite, and something which just is subsistent existence itself.
20. But there can in principle be only one thing which is purely actual, absolutely simple or noncomposite, and something which just is subsistent existence itself.
21. So, there is only one necessary being.
22. So, it is this same one necessary being which is the explanation of why any contingent things exist at all and which is the cause of every particular contingent thing's existing at any moment.
23. So, this necessary being is the cause of everything other than itself.
24. Something which is purely actual, absolutely simple or noncomposite, and something which just is subsistent existence itself must also be immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent, and omniscient.
25. So, there is a necessary being which is one, purely actual, absolutely simple, subsistent existence itself, cause of everything other than itself, immutable, eternal, immaterial, incorporeal, perfect, omnipotent, fully good, intelligent, and omniscient.
26. But for there to be such a thing is for God to exist.
27. So, God exists.

Some objections rebutted

Some might reject this argument precisely because it is presented as a *rationalist* argument, and the rationalist school of thought—most famously represented by thinkers like Descartes, Spinoza, and Leibniz—is associated with controversial theses like the doctrine of innate ideas and the claim that all knowledge is founded on truths knowable a priori, or independently of sense experience. However, the argument of this chapter by no means requires acceptance of everything that has historically been defended under the label "rationalism", and certainly does not presuppose doctrines like the ones

just mentioned. It is "rationalist" only in the sense that it rejects the idea that there are or could be any inexplicable "brute facts", but instead takes reality to be intelligible through and through. That is to say, its rationalism consists merely in its commitment to the principle of sufficient reason.

But it is important to emphasize that even here, the argument by no means requires acceptance of everything that has been defended in the name of PSR. For instance, some contemporary philosophers suppose that *propositions* are among the things which require an explanation given PSR. Some have also supposed that PSR requires that an explanans must *logically entail* the explanandum.[11] But not all proponents of PSR make these assumptions; Thomist philosophers, for example, would reject them.[12] For this reason, some objections raised against other versions of PSR do not apply to their construal of the principle.

Hence, consider a common objection to PSR which asks us to consider the proposition comprising the conjunction of all true contingent propositions. Since each of its components is contingent, this single big proposition is contingent. In that case, the objection holds, the explanation of this big proposition cannot be a necessary proposition, for whatever is logically entailed by a necessary proposition is itself necessary. But neither can its explanation be a contingent proposition. For if it were, then that contingent proposition would itself be one among others in the big conjunction of contingent propositions. That would mean that the big conjunctive proposition explains itself. But no contingent proposition can explain itself. So (the objection concludes), the big conjunctive proposition cannot have an explanation. In that case there is something without an explanation, and PSR is false.[13]

[11] In an explanation, the *explanandum* is that which stands in need of explanation, and the *explanans* is that which explains it. For example, the fact that the ground is wet one morning might be an explanandum, for which the explanans might be the fact that it rained the previous night.

[12] See Peter Weigel, *Aquinas on Simplicity* (New York: Peter Lang, 2008), pp. 127–30. For more detailed discussion of the differences between the Thomist understanding of PSR and that of rationalists and other non-Thomists, see Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014), pp. 137–42.

[13] See James F. Ross, *Philosophical Theology* (Indianapolis: Bobbs-Merrill, 1969), pp. 295–304; Peter van Inwagen, *An Essay on Free Will* (Oxford: Oxford University Press, 1983), pp. 202–4; and William L. Rowe, "Cosmological Arguments", in *A Companion to Philosophy of Religion*, ed. Philip L. Quinn and Charles Taliaferro (Oxford: Blackwell, 1997), pp. 331–37.

It is easy to see why this objection would seem to have force if we think of propositions as Platonic objects, existing "out there" in the objective world alongside stones, trees, dogs, and people. Just as we want to know how the stones, trees, dogs, and people got there, we would need to know how the propositions got there, including the big conjunctive proposition in question. But propositions are abstract objects, and as we saw in chapter 3, for the Scholastic realist this means that they exist only in the *minds* which do the abstracting. They don't exist in some Platonic realm any more than *triangularity*, *redness*, or other universals do. Now, for the Thomist qua Scholastic realist, what stand in need of explanation are concrete objects and their attributes. Where triangularity is concerned, for example, once we have explained individual concrete triangles and the individual concrete minds (including the divine mind) which entertain the concept *triangularity*, there is nothing left to explain. *Triangularity* isn't some third kind of object which exists over and above the individual triangles and the minds in question, remaining to be explained after they have been. Propositions are like that. When we explain the concrete objects and states of affairs that propositions describe and the minds (including the divine mind) which entertain the propositions, we have explained everything that needs to be explained. Propositions aren't some third kind of object over and above these, remaining to be explained after they have been.

It is also easy to see why the objection in question might seem to have force if we think of explanation as essentially a matter of logical entailment. But the Thomist does not suppose that *all* explanations are like this, nor is such a supposition plausible. As Alexander Pruss notes, "Scientific causal explanations, in general, simply do not give conditions that *entail* the explanandum."[14] This is obviously true in the case of statistical explanations, but it is also true of nonstatistical scientific explanations. For example, when we explain the elliptical orbits of the planets by reference to the gravitational influence of the

For critical discussion of this objection, see Lloyd P. Gerson, "Two Criticisms of the Principle of Sufficient Reason", *International Journal for Philosophy of Religion* 21 (1987): 129–42; Alexander R. Pruss, *The Principle of Sufficient Reason: A Reassessment* (Cambridge: Cambridge University Press, 2006), chap. 6; and Pruss, "Leibnizian Cosmological Argument", pp. 50–58.

[14] Pruss, "Leibnizian Cosmological Argument", p. 52.

sun, we don't mean that the existence of this gravitational influence strictly *entails* that the planets will move in elliptical orbits, since they could still fail to do so if there were some interfering gravitational influences. What PSR requires is that an explanans make an explanandum *intelligible*, and there is no reason to think that that requires logical entailment.

Other common objections to PSR are variations on those directed against the principle of causality (e.g., Humean objections to the effect that it is conceivable that something might come into being without any explanation), and they fail for the reasons already considered in chapter 1. Objections that appeal to quantum mechanics are even less plausible when directed against PSR than when directed against the principle of causality. For whether or not we want to say that eccentric quantum phenomena have a *cause*, they certainly have an *explanation*, since they presuppose and are made intelligible by the laws of quantum mechanics.[15]

Nor will it do in any event for the critic merely to try to raise odd puzzles (such as the puzzle concerning the big conjunction of contingent propositions) for some particular formulation of PSR (such as formulations which include propositions as among the things which stand in need of explanation). For one thing, there are, again, formulations of PSR which do not make the presuppositions that open the door to the puzzles. For another, as we have seen above, there are *arguments* for the conclusion that some version of PSR is true, and indeed reason to think that even the critics of PSR must implicitly presuppose it. These arguments are not answered merely by raising puzzles of the sort in question. (As Della Rocca points out, someone who tries to use quantum mechanics against PSR still owes us an answer to Della Rocca's question about where we are supposed to draw the line between legitimate "explicability arguments" and illegitimate ones, and why we should draw it precisely where the critic says we should.) Hence, the burden of proof is not on the proponent of PSR to show that it is true (though this is, as I have suggested, a burden which can be met), but rather on the critic of PSR to show how it can coherently be rejected.

[15] See ibid., p. 58; and J. J. C. Smart and J. J. Haldane, *Atheism and Theism*, 2nd ed. (Oxford: Blackwell, 2003), pp. 125–26.

Other objections to rationalist arguments for the existence of God like the one defended in this chapter concede PSR at least for the sake of argument, but deny that God's existence really follows from it. For even if PSR requires that there be something which exists in a necessary rather than contingent way, why (the critic asks) need this necessary being be God? Why not suppose instead that it is just the universe itself? But what has already been said should indicate what is wrong with this objection. As we have seen, what exists in a necessary way must be purely actual, simple or noncomposite, and so on. But the universe undergoes change, which entails that it has potentials which are actualized and thus is not purely actual; and it has diverse parts, which entails that it is not simple or noncomposite. Hence, it cannot be a necessary being. And we have also seen why the necessarily existing thing which is the ultimate explanation for the existence of contingent things must have various other divine attributes.[16]

Other objections which have been raised against the rationalist proof are variations on objections raised against the Aristotelian proof, the Neo-Platonic proof, and the Thomistic proof. We have already seen in earlier chapters how such objections can be answered. Notice that one popular superficial objection to those other arguments—the "If everything has a cause, then what caused God?" objection—is, if anything, even less effective when directed against the rationalist proof than when directed against those others. For one thing, like those other arguments, the rationalist proof does not maintain in the first place that *everything* has a cause. For another thing, while it does maintain that everything has an *explanation*, it does not make an exception in the case of God. Hence, it is not open to the critic to object: "If the existence of God lacks an explanation, then why couldn't we say that the existence of the universe lacks an explanation?" God's existence does *not* lack an explanation. The explanation lies in his own nature as that which is purely actual, simple or

[16] Note that it is no good to appeal to numbers, universals, propositions, etc. as examples of necessarily existing things which are not divine. For as I argued in chapter 3, we have reason, independent of any argument for God's existence, for concluding that such abstract objects cannot exist apart from all minds which might entertain them. Hence, if they are necessary—which we also have independent reason to think they are—then their necessity must be derivative rather than absolute, a consequence of the necessity of some infinite mind which entertains them.

noncomposite, and subsistent existence itself. The universe's existence cannot be explained in terms of its own nature, because it is not purely actual (given that it has potentialities), not simple (given that it has parts), and not subsistent existence itself (since it is as contingent as its parts are). Its explanation must therefore be found in something distinct from it. The difference between God and the world then is not that one has an explanation and the other lacks it, but rather that one is self-explanatory while the other is not.[17] And the distinction is not arbitrary, but grounded in the independently motivated distinctions between what is purely actual versus what is a mixture of actual and potential, what is simple versus what is composite, and what is subsistent existence itself versus what has a distinction between its essence and its existence.

Like the objections to the other arguments we've considered, then, the objections to the rationalist proof fail, leaving us with a fifth successful argument for the existence of God.

[17] Note that to be self-*explanatory* does not entail being self-*caused*, because the notion of an explanation is not the same as the notion of a cause. Having a cause entails having some potential that is actualized. But to have an explanation does not entail having some potential that is actualized. Hence, while all causes are explanations of what they cause, not all explanations are causes.

6

The Nature of God and of His Relationship to the World

We have now examined five arguments for the existence of God, which can be summarized briefly as follows. The Aristotelian proof begins with the fact that there are potentialities that are actualized and argues that we cannot make sense of this unless we affirm the existence of something which can actualize the potential existence of things without itself being actualized, a *purely actual actualizer.* The Neo-Platonic proof begins with the fact that the things of our experience are composed of parts and argues that such things could not exist unless they have an *absolutely simple or noncomposite cause.* The Augustinian proof begins with the fact that there are abstract objects like universals, propositions, numbers, and possible worlds, and argues that these must exist as ideas in a *divine intellect.* The Thomistic proof begins with the real distinction, in each of the things of our experience, between its essence and its existence, and argues that the ultimate cause of such things must be something which is *subsistent existence itself.* The rationalist proof begins with the principle of sufficient reason and argues that the ultimate explanation of things can only lie in an *absolutely necessary being.*

Our focus so far has been on the *existence* of God, though we have also said something about his *nature,* and about the nature of his causal relationship to the world. This chapter will address the latter two topics in greater detail. Investigating these particular issues will require application of several more general philosophical principles, so let us set those out first. After doing so, we can deploy them to infer from the nature of the world, considered as an effect, to the nature of God as its cause.

Some background principles

The principle of proportionate causality

In chapter 1 we introduced the *principle of proportionate causality* (PPC), which states that whatever is in an effect must be in its cause, insofar as a cause cannot give what it does not first have. Let's now examine this principle more carefully. Recall first that, stated more precisely, PPC holds that whatever is in an effect must be in its *total* cause in *some* way or other, whether *formally*, *virtually*, or *eminently*. A simple example will illustrate the idea. Suppose I give you a $20 bill. Your having it is the effect. One way in which I could cause you to have it is by virtue of having a $20 bill in my wallet and handing it to you. I have the "form" of *possessing a $20 bill*, and I cause you to have the same form. That would be a case of what is in the effect being in the cause "formally". But it might be that I do not have a $20 bill on hand ready to give you, but I do have at least $20 in the bank, and I can wire the money from my account to yours so that you can withdraw it from an ATM. In that case what is in the effect was in the total cause—me plus my bank account—"virtually" rather than formally. Or it might be that I do not have even $20 in my account, but I do somehow have access to a U.S. Federal Reserve Bank printing press and can get a genuine $20 bill printed off for you on demand. In that case what is in the effect is in the total cause—me, the printing press, and so forth—"eminently". For while in this case I don't have an actual $20 bill or even $20 in the bank, I would have something even more fundamental, causally speaking—namely, the power to *make* $20 bills.

PPC follows straightforwardly from the *principle of causality* (PC) and the *principle of sufficient reason* (PSR), both of which have been defended at length in earlier chapters. If there were some aspect of an effect that didn't come from its total cause, then that would involve a potentiality that was actualized without anything doing the actualizing, which would violate PC. It would be an aspect of the effect that lacked any explanation, which would violate PSR. Yet it is sometimes claimed that PPC is easily refuted. John Cottingham characterizes it as "seem[ing] to imply a kind of 'heirloom' view of causation" insofar as it regards properties as passed down from causes to effects, and he suggests that it is open to

counterexamples.[1] For instance, "helium has properties which were not present in the hydrogen from which it was formed by fusion" and "a sponge cake ... has many properties—e.g. its characteristic sponginess—which were simply not present in any of the material ingredients (the eggs, flour, butter)."[2]

But there are several problems with this sort of objection. First of all, Cottingham's examples, by his own admission, concern only the materials out of which the effects in question are made. Yet PPC is not concerned merely with the material factors involved in an effect's production. It says that whatever is in an effect can in some way be found in its *total* cause, not in the material factors alone. It would be absurd, then, to qualify the PPC in a way its defenders would reject (by confining its application to material factors), attack this qualified version, and then pretend that one has struck a blow against the PPC itself. This would be a clear example of a straw man fallacy.

Second, to attribute an "heirloom" view of causation to defenders of the PPC is also to attack a straw man, and indeed to attribute to them a thesis they sometimes explicitly reject. As one Thomistic author writes:

> We must not interpret [the PPC] in the more restricted and literal sense of the words *giving* and *having*, lest we be met with the obvious objection that it is by no means necessary for a boy to have a black eye himself in order to give one to his neighbour![3]

And Aquinas writes:

> A hot body is not said to give off heat in this sense, that numerically the same heat which is in the heating body passes over into the heated body. Rather, by the power of the heat which is in the heating body, a numerically different heat is made actual in the heated body, a heat which was previously in it [potentially]. For a natural agent does not

[1] John Cottingham, *Descartes* (Oxford: Basil Blackwell, 1986), p. 50. Cottingham is here criticizing the variation on PPC advocated by Descartes, and commonly labeled the "Causal Adequacy Principle" by Descartes scholars.

[2] Ibid., p. 51.

[3] P. Coffey, *Ontology, or The Theory of Being* (Gloucester, Mass.: Peter Smith, 1970), p. 60.

> hand over its own form to another subject, but it reduces the passive subject from [potential] to act[ual].[4]

The "heirloom" interpretation of PPC essentially supposes that the principle holds that what is in the effect must be in the cause *formally*. But that is not the case. It could be in the total cause *virtually* or *eminently* instead.

Now Cottingham does agree that "the sponginess does not arise *ex nihilo*; it emerges from the complex chemical changes produced by the mixing and the baking."[5] But he thinks this does not help the PPC:

> But this fact simply does not support the conclusion that the sponginess was somehow present in some form in the materials from which it arose. (One may be tempted to say that the sponginess must have been "potentially" present in the materials, but this seems to defend the [PPC] at the cost of making it trivially true.)

As the passage from Aquinas just quoted indicates, the defender of the PPC *would* indeed say that the characteristics that end up in the effect were in it potentially. In my example above, the total cause's having virtually or eminently what is in the effect involved having various potentialities—for instance, the potentiality of my bank account to have $20 drawn from it, and the potential of the Federal Reserve Bank printing press to run off a new $20 bill. But this hardly makes the explanation of your getting $20 from me in those cases only "trivially true". Explanations in terms of potentialities may often be only *minimally* informative, but they are not for that reason *non*informative or trivial.

That the PPC is not trivial is evident from the fact that naturalistic philosophers, who in general would have no truck with Thomistic metaphysics, sometimes implicitly make use of the principle in their own argumentation. For example, the materialist philosopher Paul Churchland argues that both the individual human being and the human species as a whole have purely material beginnings

[4] Thomas Aquinas, *Summa Contra Gentiles*, trans. Anton C. Pegis et al. (Notre Dame, Ind.: University of Notre Dame Press, 1975), bk. 3, chap. 69, par. 28.

[5] Cottingham, *Descartes*, p. 51.

and develop from these beginnings via purely material processes. The end result, he concludes, must therefore be purely material.[6] What this assumes, of course, is that if the total cause is material, so too must the effect be material. The mind-body dualist would agree with Churchland about that, but argue that since part of the effect (the human intellect) is not material, neither could the total cause have been purely material. PPC itself is implicitly taken for granted by both sides.

This naturally leads us to the question of evolution, which is also sometimes taken to be a counterexample to PPC.[7] The idea is that if simpler life forms give rise to more complex ones, then there is something in the effect that was not in the cause. But in fact that is not the case even on the standard naturalistic account of evolution (as opposed, say, to theistic evolutionary theories). On that account, every species is essentially just a variation on the same basic genetic material that has existed for billions of years from the moment life began. A new variation arises when there is a mutation in the existing genetic material which produces a trait that is advantageous given the circumstances of a creature's environment. The mutation in turn might be caused by a copying error made during the DNA replication process or by some external factor like radiation or chemical damage. So, it is not that a simpler life form just up and gives rise to a more complex one, full stop. Rather, the existing genetic material, the mutation, and the environmental circumstances work together to generate a new biological variation, where none of these factors by itself would be sufficient to do so. So, even on the standard naturalistic account, evolution respects the principle that a *total* cause must contain what is in its effect in *some* way, whether formally, virtually, or eminently. Indeed, as the physicist Paul Davies has pointed out, to deny that the information contained in a new kind of life form derives from some combination of preexisting factors—specifically, in part from the organism's environment if not from its genetic inheritance alone—would contradict the second law of thermodynamics, which tells us that order,

[6] Paul M. Churchland, *Matter and Consciousness*, 3rd ed. (Cambridge, Mass.: MIT Press, 2013), pp. 43–44.

[7] See Cottingham, *Descartes*, pp. 51–52.

and thus information content, tends inevitably to decrease within a closed system.[8]

The PPC, then, is well-founded entirely independently of natural theology. But as we have seen, and will see in greater detail, it is very useful in inferring from the nature of the world to the nature of its divine cause.

Agere sequitur esse

Aquinas and other Scholastic philosophers often employ the principle *agere sequitur esse* (Latin for "action follows being"). The basic idea is that what a thing *does* necessarily reflects what it *is*. Eyes and ears function differently because they are structured differently. Plants take in nutrients, grow, and reproduce while stones do none of these things, because the former are living things and the latter are inanimate. And so forth. The thesis that *agere sequitur esse* can be understood as an application, in the context of what Aristotelian philosophers call *formal* causes, of the basic idea that the PPC expresses with respect to *efficient* causes. An efficient cause is what brings about the existence of something or a change in something. The PPC tells us, again, that whatever is in the thing that changes or comes to exist must in some way have been in the total set of factors that brought about this change or existent. In this sense, the effect *cannot go beyond* the cause. A formal cause is the nature of a thing, that which makes it the kind of thing it is.[9] For example, *being a rational animal* is the nature of a human being. The characteristic attributes and activities of a thing flow or follow from its nature—as, for instance, the use of language flows from our nature as rational animals. The principle *agere sequitur esse* basically says that these attributes and activities *cannot go beyond* that nature, any more than an effect can go beyond its efficient cause. Hence, a stone cannot exhibit attributes and activities like nutrition, growth, and reproduction, because these go beyond

[8] Paul Davies, *The Fifth Miracle: The Search for the Origin and Meaning of Life* (New York: Simon and Schuster, 1999), chap. 2.

[9] To be more precise, in a material substance it is the *substantial* form (as opposed to an *accidental* form) which is its nature. Formal causality in a broad sense involves both kinds of form. For detailed discussion of formal causality, see Edward Feser, *Scholastic Metaphysics: A Contemporary Introduction* (Heusenstamm: Editiones Scholasticae, 2014), chap. 3.

the nature of a stone. Anything that could do these things wouldn't *be* a stone in the first place.

The principle *agere sequitur esse*, like the PPC, follows from the PSR. If an effect could go beyond its total efficient cause, then the part of the effect that went beyond it would have no explanation and be unintelligible. Similarly, if a thing's activities could go beyond its nature—if, for example, a stone could take in nutrients or use language—then this activity would lack an explanation and be unintelligible.[10]

I noted above that the PPC is implicit even in the argumentation of some naturalistic philosophers who are otherwise unsympathetic with the metaphysical views defended by thinkers like Aquinas. The same thing is true of the principle that *agere sequitur esse*. Aquinas himself perhaps most famously deploys this principle when arguing that the human soul can persist beyond the death of the body.[11] His reasoning is as follows: Intellectual activity, which is among the human soul's activities, is (so Aquinas holds, on independent grounds) essentially immaterial. But for a material thing to carry out an immaterial activity would violate the principle that *agere sequitur esse*. So, the human soul must be an immaterial thing. And since immaterial things have, unlike material things, no natural tendency to decay, the soul does not go out of existence when the material body does.

Of course, a materialist would disagree with the claim that intellectual activity is immaterial, but that is neither here nor there for present purposes.[12] The point is that even a materialist could agree that *if* intellectual activity *were* immaterial, *then* the thing which carries out that activity would itself have to be immaterial. And indeed, the naturalist philosopher John Searle takes precisely that view in criticizing a theory known as property dualism. Property dualism holds that

[10] Of course, a thing can *in a sense* "go beyond" its nature if someone makes it do so. For example, the bits of wood that make up a puppet can move when the puppeteer makes them do so, even though they cannot move on their own. But the point is precisely that they *can't* do so *on their own*. It is their doing so *on their own* which would violate the principle that *agere sequitur esse*.

[11] See *Summa Theologiae* I.75.2.

[12] For exposition and defense of Aquinas' argument, see Edward Feser, *Aquinas* (Oxford: Oneworld Publications, 2009), chap. 4. See also Edward Feser, "Kripke, Ross, and the Immaterial Aspects of Thought", *American Catholic Philosophical Quarterly* 87 (2013): 1–32, reprinted in Edward Feser, *Neo-Scholastic Essays* (South Bend, Ind.: St. Augustine's Press, 2015), pp. 217–53.

mental properties are immaterial but that they are nevertheless properties of a material thing—namely, the brain. The theory is essentially an attempt to acknowledge the problems with materialist theories of the mind without having to accept the dualist view that the mind is an immaterial thing. Searle's criticism is that the theory is unstable. If the property dualist maintains that a mental property is something "over and above" the brain, then the trouble in Searle's view is that such a property cannot be a property *of* the brain, but must be "a separate thing, object, or non-property type of entity".[13] On the other hand, if a mental property really is a property *of* the brain, then it cannot be something "over and above" the brain. Other critics of property dualism have complained that it is mysterious how an entirely material thing like the brain could give rise to immaterial properties.

Needless to say, this dispute goes well beyond the subject matter of this book, and I do not call attention to it here for the purpose of settling it. The point is just to provide an illustration of the fact that, as with the PPC, so too with the principle *agere sequitur esse*, what might appear at first glance to be a relic of the Scholastic tradition that contemporary secular philosophers would reject is in fact something to which many of those philosophers are at least implicitly committed. In any event, as with the PPC, PC, and PSR, the principle *agere sequitur esse* is, whatever many contemporary philosophers happen to think, well-founded and available for application to questions in natural theology.

The analogy of being

In chapter 2 we briefly introduced the notion of the *analogical* use of terms, as opposed to the *univocal* and *equivocal* uses. When I say "Fido is a dog" and "Rover is a dog", I am using the term "dog" univocally, or in the same sense. When I say "There was a bat flying around the attic" and "I swung the bat at it", I am using the using the term "bat" equivocally, or in completely different and unrelated senses. The *analogical* use of terms is an intermediate kind of usage. When I say "This wine is still good" and "George is a good man", I am not

[13] John R. Searle, "Why I Am Not a Property Dualist", in *Philosophy in a New Century: Selected Essays* (Cambridge: Cambridge University Press, 2008), 160.

using the term "good" in exactly the same sense, since the goodness of wine is a very different thing from the goodness of a man, but the two uses are not utterly different and unrelated either. The goodness of the one is *analogous* to that of the other, even if it is not exactly the same thing.

When we speak of the being or reality of different kinds of thing, we are once again using terms in an analogical way. For example, consider a substance and its attributes, such as a stone and the color and shape of the stone. Both the stone on the one hand and its color and shape on the other are real, but the reality of the latter is not the same as that of the former. The color, shape, and other attributes exist only *in* the stone which has them, whereas the stone itself does not in the same sense exist in another thing. Attributes *modify* and *depend on* substances in a way substances don't modify or depend on anything else. But neither is the reality of a substance and that of its attributes totally unrelated. It is not as if substances are real and attributes *un*real (the way that something that is a "bat" in the sense of a stick used in baseball is a *non*bat in the sense of a flying mammal). Hence, they have being or reality not in either univocal or equivocal senses, but in analogical senses.

Things are more complex than that summary lets on, however. The first complication to note is a distinction between two main types of analogy, the *analogy of attribution* and the *analogy of proportionality*. A stock illustration of the analogy of attribution would involve sentences like "George is healthy", "This is healthy food", and "George's complexion is healthy." George in this case would be what is called the "primary analogate", and food and George's complexion would be "secondary analogates". What makes the analogy in question here one of attribution is that health exists intrinsically only in George, and it is attributed to the secondary analogates merely by virtue of their relation to the primary analogate—in the case of food because it is a cause of health in living things like George, and in the case of complexion because it is caused by and a sign of health in living things like George.

The analogy of proportionality is itself divided into two sorts, *proper proportionality* and *improper* or *metaphorical proportionality*. An example of the analogy of proper proportionality would be the predication of life to plants, animals, human beings, and angels. What makes the

analogy in question here one of proper proportionality is, first, that life exists *intrinsically* in each of the analogates (in contrast to the analogy of attribution); and second, that it exists *formally* in each of them—that is to say, each has the *form* or *nature* of being alive. This latter aspect distinguishes such a case from an analogy of improper or metaphorical proportionality, as when we say (of an animal we see in the zoo) "That is a lion" and (of a certain man) "George is a lion." In this case, what we are predicating of each analogate exists intrinsically in each (which is why this is not an analogy of attribution) but formally only in the animal at the zoo, and merely *figuratively* in the man George. For there is something intrinsically in George (his courage, say) that leads us to call him a lion, but of course the form or nature of being a lion is not literally in him. By contrast, the form or nature of being alive is literally in plants, animals, human beings, and angels, despite their differences. (Remember that though metaphor is a kind of analogy—namely, the analogy of improper or metaphorical proportionality—not all analogy is metaphorical.)

The analogy of proper (i.e., *non*metaphorical) proportionality is crucial for understanding metaphysical notions like the concept of being or reality. For "being" is to be understood as a term applied to substances, to attributes, to things in which essence and existence are distinct, to that in which essence just is existence, and so forth by an analogy of proper proportionality. Now, the analogy of proper proportionality differs from the univocal use of terms in that the concept expressed is not applied in *exactly* the same way to each analogate, even if we do not have (as we do in the equivocal use of terms) the expression, in each application of the term, of utterly *different* concepts. Rather, the concept is applied to all the analogates in an *indistinct and indeterminate* way on the basis of a real likeness or similarity they bear to one another.

Of course, a univocal term can be applied to very different things, but there is a crucial difference in the case of an analogical term like "being". A univocal term like "animal" is applied to things as diverse as fish, birds, reptiles, and so forth, because these are all *species* of animal. "Animal" is applied in just the same way to all of them, to name a *genus* under which they fall, and what distinguishes each from the other is captured by its *specific difference*. (Recall that we introduced these logical terms in chapter 4.) But "being" does *not* name a genus,

so that substances, attributes, and so forth are not to be understood as different *species* of being. Human beings fall under the genus animal and have the specific difference of rationality; gold falls under the genus metal and has the specific difference of having atomic number 79; and so forth. We can grasp *rationality* without grasping *animality*, and we can grasp *having atomic number 79* without grasping *being a metal*. In that sense each of these specific differences is *extrinsic* to the genus under which the thing it specifies falls. By contrast, we *cannot* grasp what it is to be a substance or an attribute without grasping them as having being. In that sense they are *not* extrinsic to being. There is nothing that *can* serve as a specific difference to mark out something as a species within being considered as a purported genus, because the only thing extrinsic to being is nonbeing or nothing, and nonbeing or nothing cannot differentiate anything, precisely *because* it is nothing.

So, though *being* in its relation to substance, attribute, and so forth superficially resembles the relationship between genus and species, that is not in fact how they are related, and thus "being" cannot be predicated of things in a univocal way. Again, though, neither is it predicated of them equivocally. It is rather predicated of things on the basis of a "proportional similarity" between them. The notion of a proportional similarity can be illustrated by the analogical use of a term like "seeing", as when one says "I see the tree in front of me" and "I see that the Pythagorean theorem is true." These are obviously not univocal uses, since the way one sees with one's intellect is radically different from the way one sees with one's eyes. But they are not completely unrelated, as the meanings of equivocal terms are. For the eyes are to a tree as the intellect is to the Pythagorean theorem. It is the *similarity of the relations* between the eyes and the tree on the one hand, and the intellect and the Pythagorean theorem on the other, that grounds the application of the same concept "seeing", applied in an indistinct or indeterminate way, to each of them. And when we more distinctly or determinately conceptualize the "seeing" involved in seeing the tree (which involves light from a material object striking the eyes) and the "seeing" involved in seeing the theorem (which involves understanding the logical relationships between concepts), they are not conceived of as species of the same genus, as things described univocally are.

We apply "being" and related terms to different things in just this manner. The existence of a man is to his essence as the existence of an angel is to *his* essence, as the existence of God is to *his* essence. The existence of each is related to its essence in a different way: in the case of God, his existence is *identical* to his essence; in the case of an angel, his existence actualizes a potential essence to which it is *not* identical, where what is actualized is the essence of something essentially immaterial; in the case of a man, his existence actualizes the potential essence of something with (so thinkers like Aquinas would argue) *both* material and immaterial operations; and so forth. Because the relations are not absolutely identical, the predication is not univocal; but because there is nevertheless a *similarity* between the relations, the predications are not equivocal. They are predications of a sort intermediate between equivocal and univocal predictions—in particular, predications by an analogy of proper proportionality.[14]

That "being" is to be understood in an analogical way is clear given the distinction between potentiality and actuality, which (as we saw in chapter 1) is entailed by the reality of change. For *potential being* is not the same as *actual being*, but precisely because it is not nothing either, it is still really a kind of *being*. More explicitly, the reasoning can be represented as follows:

1. Actuality is real; that is, it has being.
2. Potentiality is real; that is, it has being.
3. Potentiality is really distinct from actuality.
4. If potentiality had being in the same, univocal sense in which actuality does, then it wouldn't be really distinct from actuality.
5. If potentiality had being only in an equivocal sense, then it wouldn't have being at all.
6. The only sense remaining is an analogical sense.
7. So, potentiality has being in a sense that is analogous to that in which actuality has it.

[14] This does not exclude "being" from being predicated of things *also* by an analogy of attribution (as distinct from an analogy of proper proportionality). In light of the Thomistic argument for God's existence defended in chapter 4, when we predicate "being" of things, God is the primary analogate in such a predication insofar as his essence *just is* existence, whereas all other things are secondary analogates insofar as they are beings only by virtue of having been *caused* to exist by God.

Now, to deny premise 2 of this argument would be implicitly to deny the reality of change—something which, as we saw in chapter 1, the Pre-Socratic philosopher Parmenides did deny. But we also saw that the reality of change cannot *coherently* be denied. Hence, premise 2 of the argument cannot coherently be denied either.

Nor can premise 1 coherently be denied. Another Pre-Socratic philosopher, Heraclitus, took (on a traditional interpretation, anyway) the opposite extreme view from Parmenides, to the effect that change and change *alone* is real—the implication being that there is no stability or persistence of even a temporary sort, nothing that corresponds to actuality, in which case premise 1 is false. But the consequences of this position are no less incoherent than those of Parmenides' view. For one thing, if there is no stability of *any* sort, how could the Heraclitean philosopher so much as reason through the steps of his own argument so as to be convinced by it? For there will on the Heraclitean view be no persisting self, so that the person who reaches the conclusion will not be the same as the person who entertained the premises. Nor will there be any such thing as "the" argument for his conclusion—some single, stable pattern of reasoning which the Heraclitean might rehearse in his attempts to convince his critics, or even repeat to himself on future occasions.

Nor is there any sense to be made of change in the first place except as change *toward* some outcome, even if only a temporary outcome. When an ice cube melts on the pavement, this is not merely a move away from solidity and having a square shape; it is a move in the direction of liquidity and flatness, and thus in the direction of new *actualities*. Furthermore, a thing changes in precisely the ways it does only because it is *actually* a thing of a certain type. For example, it is because it is *actually* made of water—rather than wood or glass, say—that the ice cube will melt in the sun on a hot day. Hence, premise 1 cannot coherently be denied.

Nor can premise 3 coherently be denied, or so Thomist philosophers argue. For one thing, as I argued in chapter 4, the distinction between the essence of a thing and its existence is a real distinction, and essence and existence are related to one another as potential and actual. Hence, we have at least one instance in which potentiality is really distinct from actuality. For another thing, if we were to say that the distinction between potentiality and actuality is not a real

distinction but only a distinction between different ways of thinking or talking about what is in reality just the same one thing, then we would implicitly be saying either that only actuality is real and potentiality is not, or that only potentiality is real and actuality is not. That is to say, we would implicitly be denying either premise 1 or premise 2—which, as we have just seen, we *cannot* coherently do. Hence, we cannot deny premise 3 either.

Now premise 4 is also clearly true upon reflection. For if potentiality and actuality had being or reality in *exactly the same* sense, then what could that mean if not that potentiality is really a kind of actuality or that actuality is really a kind of potentiality? Premise 5 too is clearly true upon reflection. For what could it mean to have "being" only in a sense that is *totally unrelated* to the usual sense, unless it is just to be utterly unreal? Finally, premise 6 too is clearly true insofar as the univocal use of terms, the equivocal use, and the analogous use, as the middle ground between them, exhaust the possibilities for the literal use of terms.

Thus do we have our conclusion. And thus does the distinction between actuality and potentiality give us grounds for affirming that there is an analogical use of terms alongside the univocal and equivocal uses—grounds independent of arguments for God's existence (since someone could accept the theory of actuality and potentiality whether or not he went on to apply it the way that the Aristotelian proof of chapter 1 does). It also gives us grounds for affirming that "being", specifically, is a term whose uses must be understood in an analogical way. The significance of these results for natural theology cannot be overstated. For as we have seen, the proofs for God's existence lead us to affirm the existence of something *radically* unlike the beings or realities we experience or could experience—something purely actual, utterly simple or noncomposite, immaterial, immutable, eternal, and so forth. It is therefore difficult to see how the language we use to describe the things we experience—things which have potentialities as well as actualities, are composed of parts, are material, changeable, and exist in time—could possibly be applied to God in a *univocal* way. For example, if to be a being of the sort we experience is to be a material and changeable thing, then God cannot have being or reality in *that* sense.

If we had to confine ourselves to univocal language, then it seems that the most we could say is what God is *not*—that he is *not*

potential in any way, *not* material, and so forth—leaving us with a purely apophatic or negative theology (as this approach is traditionally labeled). But then how can we so much as say that God *exists*, which is an affirmative rather than negative statement? How could we say that he *causes* things to exist, or *explains* why there is a world at all—which are also affirmative rather than negative claims? While negative theology is part of the story of God's nature, then (since attributes like immateriality and immutability obviously tell us what God is not), it cannot be the *whole* story, or it would undermine the very arguments that led us to affirm that there is a God in the first place.

Nor does *equivocal* language provide an alternative. Suppose we said that God exists and is cause of the world, has power, and so forth, but that these terms had a *completely different* sense from the sense we usually attach to the terms "exists", "cause", "power", and so forth—as different as the sense the word "bat" has in baseball is from the sense "bat" has when we apply it to a flying mammal. Naturally, this would raise the question of exactly what sense these terms *do* have if it is not the usual sense. And no answer is forthcoming. For example, no one has ever explained exactly what it means to say that God has power if his "power" has *nothing at all* to do with power in the usual sense. But suppose someone did come up with an answer. Suppose someone said "God has 'power' in the sense that he _____." If the blank is filled in with a term that is used in a univocal way, then the problem with applying terms univocally both to God and to the things we experience reappears; whereas if the blank is filled instead with a term used in an equivocal way, then we have not solved the problem of explaining the novel meaning of the equivocal terms we apply to God, but simply exacerbated it.

So, confining ourselves to univocal and equivocal terms would make it impossible to assign any positive content to what we say about God. We would be left with agnosticism, or (if we cannot even explain what we mean by the claim that God exists) even atheism. Indeed, it would not be clear that we are saying anything with any meaning at all. Yet the proofs for the existence of God that we have considered seem perfectly intelligible and give us positive knowledge about God's existence and nature. The way to resolve this impasse is to see that there is a *third* use of language, the *analogical* use, which is motivated independently of the problem of theological language but is readily applicable to that problem. We can make literal, positive

statements about God and his nature by applying the *analogy of attribution* and the *analogy of proper proportionality*.

It is worth reemphasizing a point made in chapter 2—namely, that this sort of situation is by no means unique to theology. Modern physics too requires us to take language far beyond its ordinary application, in order to describe the strange entities posited by physical theory. Common sense thinks of particles as discrete, localized entities and waves as nonlocalized and spread out, yet physics tells us that there are things that exhibit properties of both waves and particles. Common sense thinks of curvature as a property of the material objects that occupy space, but relativity theory tells us that space *itself* is curved. It is hard to see how this sort of talk makes sense unless we understand it as analogical. It is only to be expected, then, that we would have to rely on analogical language when we speak of levels of reality even more fundamental than those described by physics, which is precisely what we are doing when we try to describe the cause of there being any material world at all.

The divine attributes

Unity

With these background ideas in place—the principle of proportionate causality, *agere sequitur esse*, and the analogy of being—let's turn to the question of what we can deduce concerning the nature of the God whose existence has been argued for in the first five chapters of this book. What are the *attributes* of God? What can we know about him beyond his being the cause of the world? Let us begin with God's *unity*—the fact that there is, and in principle can be, only one God.

Recall that in chapter 1, it was argued that the things of our experience, which are mixtures of actuality and potentiality, could not exist even for a moment apart from a cause that is *pure actuality*. Only something whose existence is always already actual, and thus need not and could not be actualized by anything else, could terminate what would otherwise be a vicious explanatory regress. Now, a critic might wonder whether there might be a *sense* in which even a cause which could terminate that regress might nevertheless have

potentiality. For suppose we agree that its *existence* involved no actualization of potential. Might not we still say that its *activity* involved the actualization of potential? Might not we thus say that while it had *no* potentialities with respect to its existence, it *does* have potentialities with respect to its activity (such as its activity of actualizing the existence of other things)?

There are several problems with this suggestion, however, one of which might be obvious now that we have set out the principle *agere sequitur esse*, according to which what a thing *does* reflects what it *is*. If the first cause of things *exists* in a purely actual way, how could it *act* in a less than purely actual way? How could its acting involve potentiality any more than its existence does? A thing's existence is, after all, what is metaphysically most fundamental about it; everything else follows from that. In this case we are talking about something whose very existence is purely actual and devoid of potentiality. So, from where in its nature are the (metaphysically less fundamental) potentialities for activity that the critic suggests it has supposed to derive?

Another problem with the suggestion in question is that to say of God that he has potentiality with respect to his activity, though not with respect to his existence, entails that God has *parts*—a purely actual part, and a part that is a potentiality. Now, as we saw in chapter 2, whatever has parts requires a cause. The reason is that the whole of which the parts are constituents is merely potential until actualized by some principle which combines the parts. This principle cannot be something intrinsic to the thing, for in that case it would be the cause of itself, which is incoherent. So, it must be something extrinsic to the thing. Keep in mind that this is true even if we think of the thing in question as having always existed, since we still need some explanation of why the parts are combined at all regardless of how long they have been combined. Even if the thing had no *temporally* prior cause, it would still require an *ontologically* prior cause. But to say of the first cause of things that it has a cause of its own is also incoherent, since if it has a cause of its own, it just *isn't* really the *first* cause at all, and it isn't what terminates the regress of a hierarchical series of the causes of the existence of things. For this reason too, then, there isn't any sense to be made of the idea that God qua first cause has potentialities with respect to his activity.

So, again, God is purely actual, with no potentiality at all. And this entails his unity, because there cannot, even in principle, be more than one thing which is pure actuality. The reason is that for there to be more than one thing of a certain kind, there must be a distinction between the thing and the species of which it is a member, or (if the thing in question is a species) between the species and the genus of which it is a member. And there can be no such distinction without there also being a distinction between a thing's potentialities and its actualities.

Consider the species *human being*, the essence of which is being a *rational animal*.[15] That is to say, to be a human being is to be a member of that species which falls under the genus *animal*, and which is distinguished from other species in that genus by the specific difference *rationality*. Now, animality and rationality are distinct metaphysical *parts* of this species essence. To be rational is one way of being an animal, but obviously not the only way, since most animals are nonrational. So, rationality must be added to animality to make up the species *human being*. Being an individual member of this species involves having a further metaphysical part—namely, the matter that makes up an individual human being's body and differentiates him from other individual human beings.[16]

But to have any such parts entails having potentiality. For example, the matter that makes up a body is potentially a human being but also potentially some other kind of thing, so that its potentiality to be a human being needs to be actualized in order for a member of that species to exist. To be of the genus *animal* is by itself to be potentially either a rational animal or a nonrational animal, so that the former potentiality has to be actualized in order for the species *human being* to exist. And something similar can be said for any individual member of any species, and any particular species within any genus. All of them will involve a mixture of potentiality and actuality. Indeed, as we saw in chapter 2, anything with any parts at all will thereby be a mixture

[15] Once again, nothing rides on whether one agrees with this characterization of the essence of human beings; the reader can substitute a different example if he prefers.

[16] For further discussion of the individuation of members of a species, see Feser, *Scholastic Metaphysics*, pp. 198–201, and David S. Oderberg, *Real Essentialism* (London: Routledge, 2007), pp. 108–17.

of actuality and potentiality, since the parts as such merely potentially compose the whole until that potential is actualized.[17] (And as we've seen, this remains true even if there was no *temporally* first point at which this actualization began.)

So, for there to be more than one thing of a kind requires that that thing have metaphysical parts like genus and specific difference, or matter together with the species essence that the matter instantiates, and that in turn entails having potentiality. But God, being purely actual, is devoid of potentiality. Hence, he cannot have parts of the sort in question, and therefore, he does not belong to a kind of which there could be more than one instance. He is, accordingly, *unique*, so that the theism to which the arguments defended in chapters 1 through 5 lead us is a *mono*theism.

I have also indicated in those chapters why it is the *same* one God to which each of those arguments leads. As we saw in chapter 2 and just reiterated above, anything that is composite or composed of parts is a mixture of potentiality and actuality. Hence, what is purely actual must be simple or noncomposite. And the inference runs in the other direction as well. That is to say, what is absolutely simple or noncomposite, though it is actual—if it had *no* actuality at all, it would not exist—cannot also be potential in any way, for then it would have an actual part and a part that is a potentiality, and thus *not* be simple or noncomposite. So, something is purely actual if and only if it is absolutely simple. It follows that the purely actual actualizer of chapter 1 and the One of chapter 2 are one and the same God.

It was also argued in chapter 4 that, in anything the essence of which is distinct from its existence, that essence and existence are related to one another as potentiality to actuality. Hence, anything that is purely actual cannot have an essence distinct from its existence, but must be subsistent existence itself. Here too the inference goes in the other direction as well. That is to say, anything that just is subsistent existence itself must exist in a purely actual way. For if its existence depended on the actualization of some potentiality, it would

[17] Hence it will not do to appeal to parts of some other kind—such as substance and accidents, for example—in order to try to differentiate one purely actual cause from another. For anything composed of parts of any kind will be a mixture of potentiality and actuality, and thus fail to be purely actual.

have existence in a derivative way, and thus it wouldn't be subsistent existence itself, but rather would be just one more thing which depends on a cause which is subsistent existence itself. So, something is purely actual if and only if it is subsistent existence itself. It follows that the purely actual actualizer of chapter 1 and the first cause of the existence of things of chapter 4 are one and the same God.

Naturally, since it has just been argued that what is purely actual must also be absolutely simple, it follows that the first cause of the existence of things of chapter 4 and the One of chapter 2 are also one and the same God. But more can be said about why this must be the case. Consider that what is absolutely simple or noncomposite cannot have an essence distinct from its act of existence, for then it would have metaphysical parts and thus not be simple after all. So, it can exist only as that which is subsistent existence itself. Consider also that that which just is subsistent existence itself not only cannot have an essence distinct from its existence, but cannot have parts of any other sort. For if it did, it would be a mixture of potentiality and actuality (since parts, as we have seen, always entail potentiality) and thus not be purely actual. But we have just seen that it must be purely actual. So, it cannot have parts but must be absolutely simple. Again, the arguments of chapters 2 and 4 are arguments for one and the same God looked at from different points of view.

Finally, consider that what is purely actual, simple or noncomposite, or subsistent existence itself must exist in an absolutely necessary way. For if it were not necessary but contingent, then that would entail that it had some potentiality the actualization of which would be required in order for it to exist. And in that case it would not be purely actual. If it were not necessary but contingent, that would also entail that it had parts—at the very least an essence distinct from its existence—the combination of which would be required in order for it to exist. And in that case it would not be simple or noncomposite. Since it would have an essence distinct from its existence, it would also fail to be subsistent existence itself.

Once again, the inference goes in the other direction as well. That is to say, something that exists in an absolutely necessary way would have to be purely actual, simple or noncomposite, and subsistent existence itself. If it had potentiality, its existence would depend on the actualization of that potentiality, in which case it would be

contingent and not necessary after all. If it had parts of any sort, its existence would depend on those parts being combined, and if it had, in particular, an essence distinct from its existence, it would depend on those parts being combined. And in that case it would, again, be contingent rather than necessary.

So, something can be purely actual, simple or noncomposite, or subsistent existence itself if and only if it exists in an absolutely necessary way. It follows that the absolutely necessary cause of chapter 5 and the necessarily existing intellect of chapter 3 are one and the same as the purely actual actualizer of chapter 1, the One of chapter 2, and the cause of the existence of things of chapter 4. The five proofs we have been examining are not proofs of distinct deities, then, but rather distinct paths to one and the same God.

Simplicity

It cannot be emphasized too strongly that the unity of God is inseparable from his simplicity. If there were in God a distinction between genus and specific difference, or between his essence and his existence, then there could in principle be more than one God. God's status as First Cause is also inseparable from his simplicity. If there were in God a distinction between actuality and potentiality, or his essence and his existence, or any other parts at all, then he would, like everything else, require a cause of his own. Hence, to deny that God is simple or noncomposite is implicitly to deny his *uniqueness* and *ultimacy*. Insofar as such a denial makes of God a mere instance of a genus, it reduces him to the status of a member of a pantheon of gods, and it does so even if we think of him as the unique member. (After all, the nature of a Zeus or an Odin would not change even if they became the sole occupants of Olympus and Asgard, respectively.) Insofar as such a denial makes of God yet one further thing in need of a cause, it reduces him to the level of a creature, and it does so even if we think of him as somehow the one creature who happens to lack a cause. (Into the bargain, allowing that there could be some composite thing which lacked a cause would also undermine the very arguments that got us to God in the first place.) Neither would any of this change even if we continue to insist that God is immaterial and incorporeal (as Zeus, Odin, and the creatures familiar to us in

everyday experience are not). We would still have reduced God to what is, in essence, nothing more than a kind of superangel. Worshiping him would therefore constitute a kind of idolatry. Indeed, to deny that there is anything simple or noncomposite would entail atheism, because it implicitly denies that there really is anything having the ultimacy definitive of God.

For reasons like these, the mainstream of the Western tradition in philosophical theology—whether in the thought of pagans like Aristotle and Plotinus, Jews like Maimonides, Muslims like Avicenna and Averroes, or Christians like Athanasius, Augustine, Anselm, and Aquinas—has always insisted on divine simplicity as a nonnegotiable element of any sound conception of God. The Catholic Church too has insisted on it as a key component of basic orthodoxy, teaching it as binding doctrine at the Fourth Lateran Council (1215) and the First Vatican Council (1869–1870). It is also affirmed by Protestant thinkers like Luther and Calvin. The doctrine of divine simplicity has, accordingly, come to be regarded as the core of what is called *classical theism*.

Nevertheless, there has in recent decades been resistance to the doctrine from (of all people) certain theologians and philosophers of a broadly theistic bent. These writers have been characterized as "neo-theists" and "theistic personalists", to distinguish them from the classical theist tradition against which they are reacting. The view is called "theistic *personalism*" because it essentially treats God as the unique member of a species falling under the genus *person*, alongside other species of persons like human beings and angels, and differing from them in lacking their limitations on power, knowledge, goodness, and so forth.[18] (Note that what distinguishes neo-theism or theistic personalism from classical theism is *not* that it regards God as personal as opposed to impersonal. Since most classical theists attribute intellect and will to God, they too generally regard God as personal. Rather, what sets the views apart is that theistic personalists

[18] The label "neo-theism" is applied to these thinkers by Norman Geisler in *Creating God in the Image of Man?* (Minneapolis: Bethany House Publishers, 1997), and by Norman Geisler, H. Wayne House, and Max Herrera in *The Battle for God* (Grand Rapids: Kregel Publications, 2001). The label "theistic personalism" is applied to them by Brian Davies in *An Introduction to the Philosophy of Religion*, 3rd ed. (Oxford: Oxford University Press, 2004), chap. 1. Among the well-known contemporary theistic philosophers Davies classifies as theistic personalists are Alvin Plantinga, Richard Swinburne, and Charles Hartshorne.

regard God's being personal as entailing that he falls under a *genus*, and that in this and other ways he is not simple or noncomposite.[19])

Alvin Plantinga is one prominent neo-theist or theistic personalist critic of the doctrine of divine simplicity.[20] Commenting on Aquinas' defense of the doctrine, Plantinga claims that the doctrine holds that "God is identical with each of his properties", which entails that "each of his properties is identical with each of his properties, so that God has but one property."[21] But this, Plantinga complains, "seems flatly incompatible with the obvious fact that God has several properties ... [such as] power and mercifulness", and also entails, absurdly, that "God ... is a property" and is therefore "a mere abstract object".[22]

But Plantinga very badly misunderstands the doctrine, because he interprets it in light of a metaphysics of his own that Aquinas and other defenders of divine simplicity would regard as completely wrong-headed. First of all, Plantinga applies the term "property" extremely broadly, to almost anything we might predicate of something. We say that Socrates was human, that he was wise, that he walked around barefoot, that he was married to Xanthippe, that he was Plato's teacher, and so forth. Hence, for Plantinga, *being human*, *being wise*, *being barefoot*, *being married to Xanthippe*, and *being Plato's teacher* are all "properties" of Socrates. Indeed, *being Socrates* is a "property" of Socrates, and "among a thing's properties is its nature or essence."[23] Second, Plantinga speaks of these "properties" as if they existed in a Platonic "third realm" of abstract objects, like the Forms, which, for Plato, concrete individual things participate in or exemplify. Third, Plantinga interprets predications of properties to God and to created things in a univocal way. When we say that Socrates is wise and that God is wise, "wise" is, in Plantinga's view, to be understood in the same sense in each case.

Now, given these assumptions, it is no surprise that the doctrine of divine simplicity seems highly problematic to Plantinga. Power

[19] For example, some theistic personalists, such as process theologians like Hartshorne, deny that God is immutable or changeless. They claim that, just as human persons undergo change, so too does God. But to be changeable entails having potentialities as well as actualities, and thus entails being composite rather than simple.

[20] See Alvin Plantinga, *Does God Have a Nature?* (Milwaukee: Marquette University Press, 1980), esp. pp. 26–61.

[21] Ibid., p. 47.

[22] Ibid.

[23] Ibid., p. 30.

and knowledge (for example) are distinct things in us. Hence, if God has power and knowledge in exactly the same sense we do, how could *his* power and knowledge also fail to be distinct, contrary to the doctrine of divine simplicity? If God is identical to his power, and power is a "property" in Plantinga's sense, how could God fail to be a "property"? And if "properties" are Platonic abstract objects, how could God fail to be an abstract object?

But Aquinas and most other classical theists would reject each of Plantinga's metaphysical assumptions. First of all, and as we have seen, when we predicate knowledge or power to God, we are for most classical theists *not* using the terms "knowledge" and "power" in the same sense as when we predicate knowledge or power to human beings or other created things. Rather, we are saying that there is in God something *analogous* to what we call knowledge in us, and something *analogous* to what we call power in us. Hence, though what we call "knowledge" and "power" *in us* are certainly distinct, it doesn't follow that what we call "knowledge" and "power" *in God* must be distinct, because the latter are not exactly the same as the former, even if they are related. To be sure, Plantinga does briefly discuss the idea that language about God is to be understood analogically rather than univocally, but unfortunately, he badly misunderstands *that* claim as well. For one thing, he characterizes Aquinas' view as the thesis that "our language about God is analogical rather than literal."[24] But as I emphasized above, the analogy of attribution and the analogy of proper proportionality *are literal* uses of language, not metaphorical uses. "Nonunivocal" does not entail "nonliteral". For another thing, Plantinga supposes that the analogical use of language is intended as a way to understand the claim that God is a "property", and he finds that claim implausible even so understood. But neither Aquinas nor any other classical theist would say that God is a "property" in the first place, whether "property" is understood univocally or analogically. The thesis is simply a straw man of Plantinga's own devising, so that his inability to find a plausible way of reading it is neither here nor there.

That brings us to a second point, which is that Aquinas and other classical theists simply would not accept Plantinga's assumptions about what an essence is or what a property is. For one thing, it is simply far too crude to lump together all the various kinds of

[24] Ibid., p. 58.

predications we might make of a thing, indiscriminately to apply to them the same label (namely, "properties"), and then treat them as if they were on a metaphysical par. Rather, we need to distinguish the *essence* of a thing from its properties, its *properties* from its merely *contingent accidents*, its *intrinsic accidents* from mere *relations* it bears to other things, and so forth. For example, the essence of a human being is his *rational animality*. A capacity to find things amusing, by contrast, is not the essence or part of the essence of a human being, but it is nevertheless a *property* of human beings in the sense that it is "proper" to human beings to be able to find things amusing insofar as this capacity "*flows*" or *follows from* their being rational animals. Having a certain skin color, however, is *not* in this sense a "property" of human beings, because it does not flow or follow from being a rational animal. Having a certain skin color is instead a merely *contingent accident* of human beings. It is, however, an *intrinsic accident* insofar as having a certain skin color is something inherent in a human being himself, rather than merely a matter of his being related to something else in a certain way. Socrates' being the teacher of Plato, however, *is* merely a matter of his bearing a certain relation to something distinct from him, rather than being something intrinsic to him.[25]

For another thing, as Aquinas and many other classical theists understand them, the essence of a thing, its properties, and its intrinsic accidents (contingent and otherwise) are not entities *external* to it. In particular, they are not abstract Platonic Forms which the thing "instantiates" or in which it "participates". Rather, they are *concrete*, *intrinsic* constituents of the thing itself. For example, Socrates' rational animality is a constituent of Socrates himself, as is his property of being capable of finding things amusing, and his contingent accident of having a certain skin color.[26]

Now, since Plantinga tends to assimilate these very different aspects of a thing under the single blanket label "properties" (in his sense of

[25] For more detailed discussion and defense of Aquinas' understanding of essence, accidents, properties, etc., see Feser, *Scholastic Metaphysics*, pp. 189–93, 230–35; and Oderberg, *Real Essentialism*, pp. 152–66.

[26] For this reason, Nicholas Wolterstorff has suggested that the doctrine of divine simplicity cannot properly be understood unless one recognizes that its proponents are committed to what he calls a "constituent ontology". See Nicholas Wolterstorff, "Divine Simplicity", in *Philosophical Perspectives 5: Philosophy of Religion*, ed. J. Tomberlin (Atascadero, Calif.: Ridgeview, 1991), pp. 531–52.

the word "property" rather than Aquinas' sense), and treats these "properties" as if they were Platonic abstract objects, his interpretation of the doctrine of divine simplicity makes it sound very odd indeed. For example, it sounds as if the advocate of divine simplicity regards God's having created human beings as every bit as essential to God as his wisdom, which is odd given that God could have refrained from creating Adam but could not have failed to be wise. And it sounds like the doctrine of divine simplicity, insofar as it identifies God with his wisdom, power, and so forth, is making of God an abstract object. But in fact these odd results follow *not* from the doctrine of divine simplicity itself, but rather merely from the metaphysical assumptions Plantinga has *read into* the doctrine, assumptions which proponents of the doctrine would reject.[27]

Plantinga also appears not to grasp what is at stake in the doctrine of divine simplicity. To be sure, he is aware that defenders of the doctrine maintain that if God were not simple or noncomposite, then he would depend on something external to him.[28] But he seems to think of the dependence in question in merely Platonic terms, as a matter of God's "participating" in various Platonic "properties". That would, for the classical theist, be bad enough, but the problem goes well beyond that. The problem, as we have seen, is that whatever is composite or nonsimple is *causally* dependent on something else and thus cannot be the First Cause; and that what has an essence distinct from its existence, or falls under a genus distinct from its specific difference, cannot be *unique*. The rationality and animality that define human beings can in principle exist apart from one another. Hence, there must be some cause which combines them so that human beings exist. Similarly, if God's wisdom and power (say) were distinct, then there would have to be some cause which combines *them* so that *God* exists. If God were merely one existing thing which *participated* in the

[27] Plantinga does acknowledge that Aquinas would not use the term "property" as broadly as Plantinga himself does (Plantinga, *Does God Have a Nature?*, pp. 40–43). But Plantinga insists that what matters is that predications of the various sorts we've been discussing all involve identifying "characteristics" of God, whether or not we want to use the term "property" for all of them. But this completely misses the point. Aquinas' concern is not merely *semantic*, an eccentric insistence on using the *word* "property" in a certain restricted way. Rather, his point is that there is an *objective, extralinguistic metaphysical difference* between a thing's essence, its properties (in his sense of the term "property"), its contingent accidents, its intrinsic accidents, its relations, and so forth.

[28] Ibid., pp. 31–35.

divine essence, or were a single member of a genus, then there could at least in principle be more than one God. Monotheism would not be true *in principle*, but only as a matter of contingent fact. In both of these respects, God would lack the *ultimacy* that is definitive of him. That is to say, he would not *really* exist at all. Rather, what would exist instead is merely a quasi-divine ersatz, a "god" in the sense of a very powerful but nevertheless essentially creaturely being.

But in fact, we would not be justified in saying even that *that* sort of "god" exists. Or at least, nothing in the arguments defended in this book would justify the conclusion that such a theistic personalist or neo-theist "god" exists. For as we have seen, those arguments all entail that there must be a cause which is in no way a mixture of actuality and potentiality or of essence and existence, or in any other way composite. As arguments for a *First* Cause, they are ipso facto arguments for an absolutely *simple* or *noncomposite* cause. In short, *classical theism and the doctrine of divine simplicity necessarily go together.* To deny the one is implicitly to deny the other. Hence, again, from the classical theist point of view, to deny simplicity is implicitly to affirm atheism. But (as the first five chapters of this book have shown) atheism is false. Hence, the doctrine of divine simplicity must be true.

Objections to the doctrine raised by other recent philosophers are no better than those leveled by Plantinga. It is sometimes claimed that divine simplicity is incompatible with the thesis that while some things are necessarily true of God, others are true only contingently. For example, it is necessarily true that God is omnipotent, but only contingently true that he created the world, since he could have refrained from creating it. But, judges Thomas Morris, "there seems to be no other good way to capture this truth than to say that God has both necessary (essential) and contingent properties."[29] And since a necessary property cannot also be a contingent property, it follows that not all God's properties can be identical.

Leave aside the point, already emphasized, that the term "property" is being used here in a way that Aquinas and other proponents of divine simplicity would not use it. There is another problem with

[29] Thomas V. Morris, *Our Idea of God: An Introduction to Philosophical Theology* (Downers Grove, Ill.: InterVarsity Press, 1991), p. 117. See Christopher Hughes, *On a Complex Theory of a Simple God* (Ithaca, N.Y.: Cornell University Press, 1989), chap. 4.

this objection, as has been pointed out by Barry Miller.[30] Building on a distinction made by Peter Geach, Miller differentiates between real properties and mere "Cambridge properties" (momentarily to adopt, for ease of exposition, Plantinga's and Morris' broad sense of the term "property"). For example, for Socrates to grow hair is a real change in him, the acquisition by him of a real property. But for Socrates to become shorter than Plato, not because Socrates' height has changed but only because Plato has grown taller, is not a real change in Socrates but what Geach called a mere "Cambridge change", and therefore involves the acquisition of a mere "Cambridge property".[31]

Now, the doctrine of divine simplicity does not entail that God has no contingent properties of *any* sort, but only that he has no contingent *real* properties. He can have contingent *Cambridge* properties. And just as Socrates' being shorter than Plato is a mere Cambridge property (because it involves Plato's growing taller rather than any change in Socrates himself), so too is God's having created the world a mere Cambridge property (because it involves the world's coming into being rather than any change in God himself). Similarly, divine simplicity properly understood does not entail that *all* of God's properties are identical (again, using "property" in Morris' sense for the sake of argument), but rather only that all of his *real* properties are identical. Now, omnipotence is one of God's real properties and one he has necessarily, whereas creating the world is a Cambridge property and one he has only contingently, so that, as Morris says, God's omnipotence and his having created the world cannot be identical. But this is not a problem for the doctrine of divine simplicity, because it does not imply in the first place that these properties are identical.[32]

[30] Barry Miller, *A Most Unlikely God: A Philosophical Enquiry* (Notre Dame, Ind.: University of Notre Dame Press, 1996), pp. 106–12.

[31] See P. T. Geach, *God and the Soul* (London: Routledge and Kegan Paul, 1969), pp. 71–72. Geach calls changes of the sort in question "Cambridge changes" because of the use which Cambridge philosophers like Bertrand Russell and J. M. E. McTaggart made of the notion.

[32] It might be objected that creation is analogous to Socrates' *causing* Plato to change, and that if we think of creation on that model, then there would have to be a real change in God when he creates. But that would be so only on the assumption that changes like the ones Socrates undergoes as he changes other things would have to be manifest in *anything* that causes change in another thing. And as we will see in the sections to follow on immutability, eternity, and freedom, to make that assumption is to commit a fallacy of accident.

Immutability

Change, as we saw in chapter 1, is the actualization of potential. We have also seen that God is pure actuality, devoid of potentiality. Now, if he has no potential that needs to be, or indeed *could* be, actualized, then he cannot change. He is therefore *immutable* or changeless. To be sure, it might seem that he changes insofar as he creates the world. For doesn't this involve a transition from God's not creating it to his creating it? But as I have just argued, God's being Creator of the world is a Cambridge property rather than a real property, and his becoming the world's Creator is thus a mere Cambridge change. Just as, in our example, Socrates' becoming shorter than Plato involved a real change only in Plato and not in Socrates, so too does God's becoming Creator of the world involve a real change only in the world's status, not in God. To say that God is immutable is to say that there is no *real* change in him, though there may of course be Cambridge changes.

Divine immutability also follows from divine simplicity. When a thing undergoes a real change (as opposed to a merely Cambridge change), it changes in some particular *respect* while remaining the same in other respects. For example, a substance loses one of its attributes while remaining the same substance and while retaining its other attributes. But that presupposes that the changing thing is composed of *parts*, some of which remain while another or others are lost. Since God is simple or noncomposite, then, he cannot change.

It might be objected that in creating the world, God *acts*, and that acting always involves a change in the one acting and not merely in the thing he acts upon. For example, when I type these words, it is not just the computer screen in front of me which changes. There are also various changes in *me*—in the positions of my fingers, in the state of my nervous system, in the thoughts that pass through my mind, and so on.

However, while it is true that *the things of our experience* happen to undergo changes themselves in the course of acting upon other things, it simply does not follow that *absolutely anything* that acts *must necessarily* undergo change itself as it does so. To draw such an inference would be to commit what is called a *fallacy of accident*. Such a

fallacy would be committed, for example, if one were to conclude from the premise *that every college professor who has ever lived has been under nine feet tall* to the conclusion that *any possible college professor must be under nine feet tall.* For though there has in fact been a correlation, historically, between being a college professor and being under nine feet tall, the correlation is merely contingent (or "accidental") rather than necessary or essential. There is nothing in the notion of being a college professor that strictly *entails* that one must be under nine feet tall. At least in theory, there could someday be a college professor who is over nine feet tall. Similarly, even if the things of our experience always undergo change in the course of acting, it doesn't follow that *any possible* thing that acts necessarily must undergo change as it acts.

As Brian Davies points out in responding to this sort of objection, what is *essential* to acting is the bringing about of an effect in another thing, rather than undergoing change oneself as one does so.[33] For example, what is essential to teaching is that one causes someone else to learn, and not that one does so by lecturing, specifically, or by writing books, or what have you. Similarly, what is essential to creating is simply that God causes the world to exist. There is nothing in this that requires that it be done by virtue of the Creator's undergoing change himself.

A fallacy of accident is also committed by those who claim that if God were immutable, then he could not be said to have *life.* For while the living things of our experience do indeed change in various ways (by growing, taking in nutrients, moving about, learning, and so forth), it doesn't follow that *any possible* living thing must undergo change. What is essential to a thing's being alive, at least on the traditional Aristotelian account of life, is that the thing operate in the basis of an *internal* principle, as opposed to being entirely dependent on external forces.[34] Hence, an animal can be said to be alive insofar as at least much of what it does flows from its own nature, whereas a stone is not alive because it is entirely passive, and can do things (such as breaking a window) only insofar as other things act upon it (by

[33] Davies, *Introduction to the Philosophy of Religion,* pp. 165–67.

[34] To use the Scholastic jargon, whereas nonliving things exhibit only *transient* causation, living things also exhibit *immanent* causation. See Oderberg, *Real Essentialism,* pp. 177–83.

throwing it toward the window, for example). Now, as the uncaused cause of all things, God certainly acts in a way which does not require his being acted upon by anything else. Hence, he can certainly be said to have life. Indeed, unlike other living things (all of which to *some* extent, even if not entirely, require being acted upon by other things, insofar as they need to eat, breathe, and so forth), God acts in a way which is completely independent of anything else. Hence, he can be said to have life in the fullest way possible.

Immateriality and incorporeality

That God does not have a body, and indeed is entirely immaterial, follows straightaway from his pure actuality and absolute simplicity. This is clear whether we think of matter and material objects in the Aristotelian terms favored by classical theists like Aquinas, or instead in less philosophically controversial terms. From an Aristotelian point of view, any material object is a composite of substantial form and prime matter. Since God is absolutely simple or noncomposite, and thus lacks parts like substantial form and prime matter, he cannot have a body but must instead be incorporeal. Also, from an Aristotelian point of view, matter is, essentially, the potentiality to take on form. Matter all by itself ("prime matter", to use the technical jargon) is *pure* potentiality. Naturally, then, what is pure *actuality* and utterly devoid of potentiality cannot be in any way material.[35]

Even apart from a specifically Aristotelian view of matter, though, it is obvious that what is pure actuality and absolutely simple cannot be corporeal or material. By anyone's reckoning, material things have parts—not only parts of the sort evident to our senses (the wood, plastic, or metal parts that make up a piece of furniture, the body parts of an animal, and so forth), but microscopic parts like molecules, atoms, and subatomic particles. These parts are capable of being arranged and rearranged in various ways, which entails that anything made up of them has potentiality. Even the fundamental particles—fermions and bosons—though they are not composed of other particles, still have parts in the sense that they have distinctive attributes. Furthermore, they exhibit potentiality insofar as they come into being and pass

[35] For defense of the Aristotelian view of material substance, see Feser, *Scholastic Metaphysics*, chap. 3.

away. Hence, again, since God is devoid of potentiality and without parts, he cannot be material.

Eternity

It is clear from what has been said in the preceding chapters that God neither comes into being nor passes away. What comes into being has parts that need to be combined—most fundamentally, its essence and existence—is merely potential until they are combined, and exists contingently rather than necessarily. Accordingly, what comes into being requires a cause. But as we have seen, God is without parts, without potentiality, is absolutely necessary, and just *is* existence itself rather than something in need of deriving existence from something else. Accordingly, he not only need not have a cause but could not have had one. Hence, he does not come into being, but has always existed. What passes away has parts that can be separated—most fundamentally, its essence can fail to be conjoined with existence—is potentially nonexistent, and is, accordingly, contingent rather than necessary. Since God is without parts, without potentiality, is absolutely necessary, and just *is* existence itself (and thus can hardly *lose* existence), he cannot pass away. Now what neither comes into being nor passes away is eternal. Hence, God is eternal.

But God's eternity amounts to more than this. It is not mere longevity, but strict *timelessness*. That is to say, it is not merely that God has existed throughout all past time, and will continue to exist throughout all future time. Rather, he exists *outside of* time altogether. This follows from both his immutability and his simplicity. If God existed within time, he would constantly be adding new seconds, days, and years to his life; would be acting at one moment in a way that differs from the way he acts at another moment; and (given that, as we will see below, God can be said to have knowledge) would constantly be acquiring new pieces of knowledge, such as the knowledge that *it is now time* t_1, the knowledge that *it is now time* t_2, and so forth. But all of this would involve change, and God is immutable. Hence, he does not exist within time, but rather timelessly.[36] Furthermore, if God

[36] See William Lane Craig, *Time and Eternity* (Wheaton, Ill.: Crossway Books, 2001), pp. 30–31. Craig, who rejects divine immutability, also rejects the view that God is timeless. But he argues that, for the reasons just summarized, *if* God is immutable, *then* he would indeed be timeless.

were in time, then there would be different stages of his life, each of which would be distinct from the others. In that case, he would have distinct parts. But God is simple or noncomposite, and thus without parts. Hence, he is timeless.

Now, I have argued in earlier chapters that the existence of anything at any moment is ultimately caused by God. It might seem that that claim is incompatible with the claim that God is timeless. For if the existence of something at time t_1 is caused by God, and the existence of something at time t_2 is caused by God, doesn't that entail that God is acting at time t_1 and also acting at the later time t_2? And doesn't that in turn entail that God is in time?[37]

However, this does not follow. In particular, from the proposition that *God causes it to be the case that such-and-such exists at time* t_1, it does not follow that *at time* t_1, *God causes it to be the case that such-and-such exists.*[38] It is not that at time t_1 God causes some object to exist, then at a later time t_2 carries out a second action of causing that thing to remain in existence, then at some yet later time t_3 carries out a third action of causing it to remain in existence for a while longer, and so forth. It is rather that God, from outside of time, in a *single* act causes to exist a temporal world in which the object exists at times t_1, t_2, t_3, and so on. You might compare his action to that of an author who comes up with an entire story in a single flash of insight. He determines, all at the same moment, what the beginning, middle, and end of the story will be. From the point of view of the characters in the story, what happens in the middle of the story follows what happened at the beginning and precedes what happens at the end. But the author himself did not first come up with the beginning, and then later the middle, and then later still the ending. Rather, he did it all at once.[39]

But this brings us to another objection sometimes raised against the claim that God is timeless. If God causes Socrates to exist in 469 B.C., then Socrates' existing then must be simultaneous with God's eternity. And if God causes Barack Obama to exist in A.D. 1961, then Obama's existing then must be simultaneous with God's eternity. But if some time t_1 is simultaneous with some time t_2, and t_2

[37] See Richard Swinburne, *The Coherence of Theism* (Oxford: Clarendon Press, 1977), p. 221; and Nelson Pike, *God and Timelessness* (New York: Schocken Books, 1970), pp. 106–7.

[38] See Brian Davies, *Thinking about God* (London: Geoffrey Chapman, 1985), p. 154.

[39] See Stephen M. Barr, *Modern Physics and Ancient Faith* (Notre Dame, Ind.: University of Notre Dame Press, 2003), p. 262.

is simultaneous with t_3, then t_1 must be simultaneous with t_3. And in that case, it would follow that Socrates' existence is simultaneous with Obama's existence. But obviously that is absurd. So (the objection concludes), the claim that God is timeless leads to absurdity.[40]

The problem with this objection, though, is that it misses the point. It treats timeless eternity as if it were a point *in time*, for only if it were a point in time could it be *simultaneous* with some point in time. But the whole idea that God exists timelessly is precisely that he does not exist at some point *in* time, but rather *outside of* time altogether.[41]

Necessity

The rationalist proof of chapter 5 argues directly for the existence of an absolutely necessary being, and we have discussed how the other proofs also imply that God exists of necessity. But some have objected to the very idea of a necessary being. One such objection rests on the claim that necessity is entirely a matter of linguistic convention and has nothing to do with extralinguistic reality. For example, the proposition that *all bachelors are unmarried* is necessarily true, but this reflects nothing more than its status as an *analytic* statement—that is, a statement that is true by virtue of the meanings of its terms. It tells us only how, as a matter of linguistic convention, we use the term "bachelor", and nothing about reality. Extralinguistic reality itself cannot intelligibly be said to be necessary. But God is supposed to be part of extralinguistic reality. Hence, the objection concludes, it makes no sense to characterize God as a necessary being.[42]

One problem with this objection is that the thesis that all necessity is a product of linguistic convention can be shown to be false even independently of considerations drawn from natural theology. For one thing, conventionalism confuses *sentences*, which are linguistic

[40] See Swinburne, *Coherence of Theism*, pp. 220–21; and Anthony Kenny, *The God of the Philosophers* (Oxford: Clarendon Press, 1979), pp. 38–39.

[41] See Davies, *Thinking about God*, pp. 165–66; and Paul Helm, "Divine Timeless Eternity", in *God and Time*, ed. Gregory E. Ganssle (Downers Grove, Ill.: InterVarsity Press, 2001), p. 35.

[42] J. N. Findlay, "Can God's Existence Be Disproved?", in *New Essays in Philosophical Theology*, ed. Antony Flew and Alasdair MacIntyre (London: SCM Press, 1955). Bertrand Russell raised a similar objection in his famous 1948 BBC debate with Father Frederick Copleston. See Bertrand Russell and Frederick Copleston, "A Debate on the Existence of God", in *The Existence of God*, ed. John Hick (New York: Macmillan, 1964), pp. 167–91.

items, with *propositions*, which are not.[43] The proposition that *snow is white* is not the same thing as the English sentence "Snow is white", since the very same proposition can be conveyed by the German sentence "Schnee ist weiss." Furthermore, that proposition would have been true even if neither English, nor German, nor any other language had ever existed. So, the fact that sentences are products of convention does not entail that the propositions that sentences express are the products of convention. Hence, it does not entail that the necessity of a proposition is always a product of convention.

To be sure, the proposition that *snow is white* is not a necessarily true proposition in the first place. But propositions of mathematics and logic—for example, the proposition that $2 + 2 = 4$ and the proposition that *everything is identical to itself*—are necessarily true, and it is notoriously difficult plausibly to argue that the truths of mathematics and logic are merely conventional. (See the discussion of these issues in chapter 3.) So, we have reason, completely independent of considerations drawn from the rationalist argument for God's existence, to reject the conventionalist view of necessity.

But those considerations do indeed give us further reason to reject conventionalism, which brings us to a deeper problem with the objection under consideration. The claim that God cannot be necessary because necessary truths are all conventional simply begs the question against the arguments defended in this book. For the arguments purport to show that there must be an extralinguistic reality—namely, a cause of the existence of things—which exists of necessity, and these arguments also give an account of the nature of this necessity that has nothing to do with linguistic convention. In particular, they claim that the necessary existence of this cause amounts to its being purely actual and devoid of potentiality, of its being absolutely simple, and of its essence being identical with its existence. To respond to these arguments with the mere assertion that necessity is a matter of convention *presupposes* that the arguments are wrong, but does nothing to *show* that they are.

Another objection to divine necessity derives from David Schrader, who suggests that we can imagine a possible world in which nothing

[43] See Alvin Plantinga, "Self-Profile", in *Alvin Plantinga*, ed. James E. Tomberlin and Peter van Inwagen (Dordrecht: D. Reidel, 1985), pp. 71–73.

exists, not even God. Hence, God does not exist in every possible world, in which case he does not exist of necessity.[44] But this objection fails for several reasons. For one thing, Schrader's procedure is to suggest that he can imagine a scenario in which only a single green marble exists, and then imagine a further scenario in which even this green marble is absent. To imagine this, he supposes, is to conceive of a scenario in which nothing exists, not even God. But that would be true only if everything that exists or might exist, including God, is the sort of thing of whose presence or absence one might form a mental image. And that is simply not the case.[45] It would be ridiculous to suppose that one could show that $2 + 2 = 4$ is not really a necessary truth by first imagining a scenario in which the only thing that exists is the sentence "2 + 2 = 4" written on a chalkboard, and then imagining a further scenario in which that sentence is erased. The reason is that numbers are not material objects whose presence or absence one could imagine in the first place. One can, of course, form mental images of *numerals* like "2" and "4", but that is not the same thing as imagining the numbers themselves, any more than to form mental images of the Roman numerals "II" and "IV" amounts to forming mental images of the numbers themselves. Numbers are abstract objects rather than material things, and numerals are merely labels by which we refer to them. Hence, you are not going to be able to determine anything one way or the other about numbers, or about other abstract objects for that matter, by trying to *imagine* the presence or absence of this or that. What we can form a mental image of is in this case simply irrelevant to what we can strictly *conceive*.

But the same thing is true of God. As we saw above, God is not a material object of any sort. Hence, you cannot form a *mental image* even of God *existing*, let alone of him not existing. Mental images are thus completely irrelevant to what may or may not be true of God in different "possible worlds", and have nothing to do with what we might coherently conceive of in the context of natural theology any more than they do in the context of mathematics.

[44] David Schrader, "The Antinomy of Divine Necessity", *International Journal for Philosophy of Religion* 30 (1991): 51–52.

[45] See Brian Leftow, "Necessity", in *The Cambridge Companion to Christian Philosophical Theology*, ed. Charles Taliaferro and Chad Meister (Cambridge: Cambridge University Press, 2010), pp. 28–29.

But even if Schrader avoided the error of supposing that conceiving of God's existence involves forming mental images, there is another serious problem with his argument. The methodological supposition that we can investigate necessity and other modal notions by trying to conceive of what would be the case in various possible worlds is very commonly made in contemporary philosophy. But from the Aristotelian-Thomistic point of view, it gets things backward. We do not first investigate what is true in various possible worlds, and then from there determine what is possible for a thing, what is necessarily true of it, and so forth. Rather, we start with actual things, determine their essences, and then from there go on to draw conclusions about what is possible for them, necessarily true of them, and so on.[46]

In the specific case at hand, then, the proper procedure is not to start by trying to conceive of whether God would exist in every possible world and then determine from that whether he is a necessary being. Rather, the proper procedure is to start by determining whether God exists, and then to determine what his nature is, and then in turn determine from that what is possible for him what is necessarily true of him, and so forth. That is just what we have done in previous chapters. What we determined is that God does indeed exist, that among the aspects of his nature are that he is purely actual and without potentiality, that he is absolutely simple or noncomposite, that he is subsistent existence itself and thus depends on nothing else for his existence, and so forth. From that, we saw, it follows in turn that he exists necessarily rather than merely contingently. And that entails that he exists in every possible world (if, for the sake of argument, we go along with the "possible worlds" talk popular in much contemporary metaphysics).

Schrader might disagree with all of this, but his objection does not show that there is anything wrong with it. Rather, his objection merely implicitly *assumes* that there is something wrong with it, and thus begs the question.

Omnipotence

Power is the capacity to act or to make. Now, most of the arguments for God's existence that we have been examining are arguments for a

[46] See Feser, *Scholastic Metaphysics*, pp. 239–41, and Oderberg, *Real Essentialism*, pp. 1–6.

cause of the existence of things, and causing things to exist is a kind of acting and a kind of making. Naturally, then, there is power in God. But God does not merely have power. He is *all*-powerful or omnipotent. There are several ways to see this.

Consider first that we have seen that anything that exists or could exist other than God would have potentials that need actualization, parts that need to be combined, and an essence distinct from its existence, and would therefore be contingent. We have also seen that such things can exist, even for an instant, only insofar as they are caused by that which is purely actual, absolutely simple, subsistent existence itself, and absolutely necessary; and we have seen that there cannot in principle be more than one such cause. It follows that anything that exists or could exist other than God depends at every instant on God for its existence.

Recall also the principle *agere sequitur esse*, according to which a thing's attributes and activities cannot go beyond its nature. When we combine this principle with the thesis that the sheer existence of anything at any moment depends on God's causing it to exist, we get the result that the *operation* or *activity* of anything at any moment also depends on God. For if a thing could not even exist for an instant apart from God, how could it act at any instant apart from God? If the thing has no independent capacity for existence, where could an independent capacity for action possibly come from? Existing, after all, is more fundamental than acting, since it is presupposed by acting. So, if a thing's essence gives it no capacity even to exist apart from God, it cannot intelligibly give it power to act apart from God.

So, everything that exists or could exist other than God depends at every instant not only for its existence, but also for its capacity to do anything, on God. Nothing that exists or could exist is outside the range of his power or has any power that does not derive from him. But to be that from which all power derives, and which has nothing outside the range of its power, is to be all-powerful or omnipotent. Hence, God is all-powerful or omnipotent.

Recall also that, of his very nature or essence, God exists in a fully actual way, as that which just *is* subsistent existence itself rather something which in any way derives existence from anything else. Factor in once again the principle *agere sequitur esse*, that a thing's

attributes and activities reflect what it is. And consider that to do or to make is to actualize some potential, so that to have power is to have the capacity to actualize potential. It follows that since God *exists* in the fullest possible way, he must have the capacity to *act* in the fullest possible way. Hence, there is no potential that he cannot actualize, and thus nothing outside the range of his power. For suppose that there was some potential that could be actualized, but that God could not actualize it. What could possibly prevent him from doing so? What could prevent him from acting in that particular possible way if he exists in the fullest possible way, given that *agere sequitur esse*?

So, whether we start with God's effects and work back to his nature, or start with his nature itself and work forward to his attributes, we arrive at the same result—namely, that God is all-powerful or omnipotent.

Can God do absolutely *anything*, then? That depends on what we have in mind by "anything". If the question is whether God can cause to exist or occur anything that could in principle exist or occur, then the answer is that he can indeed do so. But if the question is whether he can make things like round squares, or cause 2 and 2 to equal 5, or the like, then the answer is that he cannot do so. The reason, though, is not that there is any limitation on his power. It is not that there is such a thing as the capacity to actualize round squares, and God lacks that capacity. It is rather that there is and could be no such thing as the capacity to actualize round squares in the first place, because the very idea is self-contradictory.

It is in this light that we should understand puzzles like the famous "paradox of the stone". Can God make a stone that is too heavy for him to lift? If we say that he can, then it seems that there is something he cannot do—namely, lift the stone. If we say that he cannot, then it seems once again that there is something he cannot do—namely, make the stone. So, either way, it seems there is something God cannot do. And if there is something he cannot do, then how can he be omnipotent? The problem with this alleged difficulty for omnipotence is that the very idea of *a stone that is too heavy for God to lift* is as self-contradictory as the idea of a round square. For since a stone's rising is certainly something that could occur, it is something God could cause to occur. Hence, God cannot make a stone that is too heavy for him to lift any more than he can make a round square,

and the reason is that there is no such thing in the first place as the capacity to make a stone too heavy for God to lift.[47]

For the same reason, other difficulties that might seem to face the claim that God is omnipotent are also illusory. As we will see below, God possesses perfect goodness, and thus cannot sin. But this is no more inconsistent with his being omnipotent than his being unable to create a round square is. For the notion of something that is perfectly good but also sins is, like the notion of a round square, self-contradictory.

Omniscience

As with omnipotence, so too with omniscience we can show that God possesses it either by working backward from his effects to the nature of their cause, or by working forward from God's nature. Again, anything that exists or could exist, and anything that something does or could do, depends at every moment on God's causal action. Now, recall the principle of proportionate causality, according to which whatever is in an effect must in some way be in its cause. It follows from these two propositions that whatever is in anything that exists or could exist must in some way be in God as their cause.

So, in *some* way or other, colors, sounds, shapes, sizes, spatial locations, atomic structures, chemical compositions, surface reflectance properties, nutritive powers, locomotive capacities, and every other feature of everything that exists or might exist—whether mineral, vegetable, animal, human, or angel—must exist in God. Now, obviously these features cannot exist in God in the *same* way they exist in all these effects. For example, God cannot be of a certain color, shape, or chemical composition, because these are all essentially features of material objects, and God is immaterial. But God's immateriality is not the only reason these features cannot exist in him in the way they do in other things. Even if God were material, if he merely

[47] See George I. Mavrodes, "Some Puzzles concerning Omnipotence", *Philosophical Review* 72 (1963): 221–23. As Harry Frankfurt points out, even if we supposed that God could cause self-contradictory things or events, the paradox of the stone would not refute the claim that God is omnipotent. For if God can cause self-contradictory things and events, then he can not only *make* a stone that is too heavy for him to lift, but he can also go on to *lift* a stone that is too heavy for him to lift. See Harry Frankfurt, "The Logic of Omnipotence", *Philosophical Review* 73 (1964): 262–63.

instantiated redness and roundness (for example), then he wouldn't be the ultimate cause of all red and round things. For in that case his own redness and roundness, being mere instances of universal forms or patterns, would themselves require explanation just as much as other instances do. And the same thing is true of any features that angels, who are *im*material, might possess. If God merely instantiated those features just as angels do, then he couldn't be the ultimate cause of all things which have those features.

Now, as we saw in chapter 3, redness, roundness, and other universals are real; nominalism and conceptualism, the alternatives to realism, are false. We also saw that where universals don't exist in the concrete individual things which instantiate them, the only other ways they might exist are either as concepts or ideas in an intellect, or as the denizens of some Platonic "third realm". But we also saw that there is no such "third realm", for Platonism too is false. So, if redness, roundness, and all the other universal forms or patterns that everything that exists or might exist exhibit don't exist in God in the way in which they exist in the concrete individual things which instantiate them, then the only other way in which they can exist in him is as concepts or ideas in an intellect. But again, they must exist in him in some way, given the principle of proportionate causality. So, it follows that they exist in him as concepts or ideas in an intellect. And so we have to attribute intellect to God.

Nor is it just concepts which exist in this intellect. Consider a cat sitting on a mat. That the cat and the mat exist at all at any instant at which they do exist is due to God's causal activity. But that the *state of affairs* of the cat's being on the mat holds at any instant is also due to God's causal activity. So, just as, given the principle of proportionate causality, the "catness" of the cat must exist in God as the concept *catness*, so too must the state of affairs of the cat's being on the mat in some way exist in God. In particular, it must exist as the *proposition* that *the cat is on the mat*. For just as the concept *catness* is the correlate within an intellect of the universal form or pattern *catness* that exists in actual cats, the proposition that *the cat is on the mat*, considered as the content of a thought, is the correlate within an intellect of the state of affairs of the cat's being on the mat. And just as the concept of anything that might exist would have to be in God's intellect, so too must the propositions corresponding to any state of affairs that might

obtain exist as thoughts in the divine intellect, since these states of affairs can obtain only insofar as God causes them to.

Naturally, among the states of affairs that obtain are the state of affairs that the proposition that *the cat is on the mat* is a true proposition, and the state of affairs that the proposition that *unicorns exist* is a false proposition. So, thoughts corresponding to these states of affairs will be among those in the divine intellect. That is to say, there is in the divine intellect the thought that *it is true that the cat is on the mat*, the thought that *it is false that unicorns exist*, and so forth. Furthermore, since everything that exists or might exist other than God, and every state of affairs that obtains or might obtain other than God's existence, depends on God's causal activity, all propositions about such things will be true or false only because God causes the world to be such that these propositions are either true or false. Again, he is like an author who comes up with a story in a single, instantaneous flash of insight. Such an author can hardly be *mistaken* about whether a certain character exists in the story, or about whether such-and-such a situation involving the character occurs in the story. Nor could the author be mistaken at that instant about whether, at that instant, he has framed the story in just that way. Similarly, God can hardly be mistaken about whether he is *causing* such-and-such things to exist or such-and-such states of affairs to obtain, and thus can hardly be mistaken about whether such-and-such things really do exist or such-and-such states of affairs really do obtain.

Of course, the analogy is not perfect. A human author might go on to forget some of the details of the story he came up with. But that is because the human author exists in time, transitions from one cognitive state to another, knows what he knows in part by virtue of brain processes which can malfunction, and is otherwise subject to forces outside of his control which might cause him to forget. None of those things is true of God, who, as has been shown above, is eternal, immutable, incorporeal, and omnipotent.

Now, on the standard philosophical account of knowledge, one knows some proposition p when (a) one thinks p is true, (b) p really is true, and (c) one thinks p is true as a result of some reliable process of thought formation. Now each of these conditions (or rather, keeping in mind the doctrine of analogy, something analogous to each of

them) is true of God. Again, consider the proposition that *the cat is on the mat.* We have seen that there must be in the divine intellect the thought that *it is true that the cat is on the mat.* So, condition (a) obtains. And it really is true that the cat is on the mat, precisely because God is causing that to be the case. So, condition (b) obtains. Furthermore, there can be no more reliable way of determining whether some proposition *p* is true than being able to *make it the case* that it is true. (The author in our example certainly has a reliable way of finding out whether a certain character exists in his story, insofar as he is the one who decided to put the character in the story in the first place!) So, since the cat is on the mat only insofar as God himself causes it to be the case that the cat is on the mat, God certainly has a reliable way of "finding out" whether such a proposition is true. So, condition (c) obtains. So, God has *knowledge.*

Now, what is true of the proposition that the cat is on the mat is true also of every other proposition about what things exist or might exist, and what states of affairs obtain or might obtain. God knows *all* such propositions. Moreover, he can hardly have any less knowledge about *himself* than he has about things other than himself, any more than an author can know less about his own creative act of coming up with a story than he knows about the story itself. Of course, a human author might not know certain other things about himself, such as what is going on at the moment in the interior of his body. But that is because a human author is composed of *parts*; his intellect is a distinct thing from his digestive system or circulatory system or muscles or bones or what have you. Nothing like that is true of God, who is absolutely simple or noncomposite. His intellect *just is* his power, which *just is* his existence, and so forth. (More on simplicity in a moment.)

Now, if God has knowledge of all propositions about himself and everything else, then he has *all* knowledge. He is *omniscient.* We arrived at this result by beginning with the world as God's effect and working backward to determine the nature of its cause, but, again, we can also begin with God himself and work forward to determine whether omniscience is among his attributes. That is essentially what the argument for omniscience developed in chapter 3 did, insofar as it began with the thesis that God is an infinite intellect and then argued that such an intellect must have all knowledge.

I also responded in that chapter to an objection to the very notion of omniscience raised by Patrick Grim.

There is more to be said, however, beginning with some remarks about the *manner* in which God knows the world. Recall that I emphasized that God can hardly be mistaken about the cat being on the mat, insofar as he is the cause of the cat's being on the mat in the first place. I compared this to an author's knowledge of the characters and events of the story he has come up with. Now, the way an author knows these characters and events is not by *observing* them. It is not a kind of perceptual knowledge. Rather, the author knows them by virtue of knowing *himself*, by virtue of knowing his own thoughts and intentions as author. And that is precisely the way in which God knows the world. His knowledge is not the result of a kind of observation of what happens as history unfolds. God is not, after all, in time, and thus he does not need to wait until something happens in order to know that it happens. Nor does he have perceptual organs by which he comes to know things, since he is incorporeal. Nor does he learn anything in any other way, since learning is a kind of change and God is immutable. As I said above, it is in a single, timeless act that God causes to exist everything that has been and will be. And it is in knowing *himself* as so acting that God knows everything that is, has been, and will be. His knowledge of the world is a consequence of his self-knowledge.[48]

Understanding this is important not only so as to avoid misunderstandings of *God's* nature, but also so as to avoid misunderstandings of the *world's* nature. Since God knows the past, present, and future of the world all in a single act, it might seem that past, present, and future must themselves all in some sense exist at once. That is to say, this might seem to entail what is sometimes called a "four-dimensionalist" view on which time is interpreted as a fourth, space-like dimension.[49] But that simply does not follow. It would follow if God's knowledge of the world was a kind of observational knowledge, for in that case if God knew the world in a single observational act, then past, present, and future would all have to be there

[48] See Davies, *Introduction to the Philosophy of Religion*, pp. 194–97.

[49] See Katherin A. Rogers, *Anselm on Freedom* (Oxford: Oxford University Press, 2008), pp. 158f.

at once in order for God to observe them all at once. But again, that is simply not how God knows the world.[50] Nor does anything like four-dimensionalism follow from the fact that God knows *himself as cause* of the world in a single timeless act. He knows, from outside time, that he causes, from outside time, a world in which such-and-such things exist and occur. But it is simply a fallacy to infer from that that the world that he thereby knows is *itself* outside time, a world in which so-called past, present, and future events and objects are all somehow co-present. That would be like inferring, from the fact that a motionless hunter knows in a single instant that he has fired a bullet from his rifle, the conclusion that the bullet itself must be motionless and that it somehow is present at every point in its journey from rifle to target all at once.

It is also sometimes claimed that God's knowledge of the future is incompatible with our having free will.[51] If God infallibly knows that I will go to work tomorrow, how could I possibly *not* go to work tomorrow? For if I don't go to work tomorrow, that would make it the case that God had been wrong in thinking I would, and he cannot be wrong. But if it is not possible that I not go to work tomorrow, how can I *freely choose* whether or not to go to work tomorrow? Hence, God's knowledge of what I will do entails (so the objection goes) that I have no free choice about what I do.

But the conclusion doesn't follow. Suppose I somehow know that you are sitting in the next room—via observation, or some other person's testimony, or telepathy, or whatever. Obviously, my knowing this isn't incompatible with your having freely decided to sit there. And this is true no matter how certain I am that you are really sitting there. By the same token, if I somehow know with certainty that you *will be* sitting there *tomorrow*—because you promise me that you will be, or because I look into the future in a crystal ball—how would that be incompatible with your freely deciding to do so? If knowing that you carry out some action isn't incompatible with your freely choosing to carry it out when the action is in the *present*, why would

[50] See Brian J. Shanley, "Eternal Knowledge of the Temporal in Aquinas", *American Catholic Philosophical Quarterly* 71 (1997): 197–224; and Kevin M. Staley, "Omniscience, Time, and Eternity: Is Aquinas Inconsistent?", *Saint Anselm Journal* 3 (2006): 9–16.

[51] See Nelson Pike, "Divine Omniscience and Voluntary Action", *Philosophical Review* 74 (1965): 27–46.

it be incompatible with your freely choosing to carry it out when the action is in the *future*? And if there would be no incompatibility when *I* am the one who knows about your future actions, why would there be when *God* is the one who knows it?

Of course, the critic might respond that unlike me, God is also the *cause* of the future's existing, and not just someone who happens to know about it. And he is also the cause of the *present's* existing. And as I have said, he knows everything—including the present and the future—precisely by virtue of being its cause. So, wouldn't this be incompatible with my actions being freely chosen (indeed, with my present actions being freely chosen, and not merely my future actions)?

But once again, this conclusion doesn't follow. Consider once again the analogy with the author of a story. Suppose it is a crime novel and that one of the characters carefully plots the murder of another, for financial gain. We would naturally say that he commits the murder of his own free will, and is therefore justly punished after being caught at the end of the novel. It would be silly to say: "Well, he didn't really commit the murder of his own free will. For he committed it only because the author wrote the story that way." The author's writing the story the way he did is not inconsistent with the character's having freely committed the murder. It's not comparable to (say) some further character in the story *hypnotizing* the murderer and thereby getting him to commit the crime—something which *would* be inconsistent with the murder having been committed freely. If we got to a point in the book where such hypnotism was revealed, we would say "Ah, so it wasn't an act of free will after all." But we *don't* say that when we reflect on the fact that the story had an author. It is perfectly coherent to say that the author wrote a story in which someone freely chooses to commit a murder.

Similarly, it is perfectly coherent to say that God causes a world to exist in which someone freely chooses to commit a murder, or to carry out some other act. God's causal action is no more inconsistent with our having free will than the author's action is inconsistent with his characters' having free will. God's action would be inconsistent with our having free will if he was comparable to the hypnotist, who is one character alongside the others and interferes with them so as to get them to do what they would not otherwise be doing. But God is not like that at all, any more than an author is a character alongside

the others in the novel, or any more than the author "interferes" with his characters so as to get them to do what they would not otherwise do. The author's causal relation to the story is radically unlike the relations the characters in the story have to each other, and God's causal relation to the world is radically unlike the relation we and other elements of the world have to each other. God's action seems inconsistent with free will only when we fail to keep this in mind—to keep in mind that we have to think of talk about God's knowledge and action in *analogical* rather than univocal terms.

The analogical use of terms is crucial to understanding God's knowledge properly in another respect. I have spoken of various concepts and propositions existing in the divine intellect, but they cannot exist there in exactly the *same* sense in which they exist in our intellects. For in our intellects they exist as distinct thoughts, and there cannot be any such distinctions in God consistent with his simplicity. To a first approximation, we might think instead in terms of a *conjunction* of all propositions, and say that there is in the divine intellect something like a single thought with this one gigantic conjunctive proposition as its content. But even that cannot be quite right, because this single conjunctive proposition will itself have component parts.

A better, though still imperfect, way to understand the nature of God's knowledge would be to think in terms of analogies like the following. From a beam of white light, various beams of colored light can be derived by passing it through a prism. Though the colors are not separated out until the beam reaches the prism, they are still in the white light in a unified way. From a lump of dough, cookies of various shapes can be derived by means of cookie cutters. Though the various cookies with their particular shapes are not separated out until the cutters are applied to the dough, they are still in the uncut dough virtually. Now, God is pure actuality, whereas each kind of created thing represents a different way in which actuality might be limited by potentiality. That is to say, each created thing is comparable to one of the different specific colors that might be derived from the white light that contains all of them, or is like one of the many cookie shapes which might be derived from the dough which contains all of them. God's creation of the world is thus like the passing of white light through a prism or the application of the cutters to the dough.

The prism draws out, from the color spectrum which is contained in a unified way in the white light, a particular beam of *this* color and a particular beam of *that* color; and the cutters draw out, from the variety of possible cookies contained in a unified way in the lump of dough, a cookie of *this* particular shape and a cookie of *that* particular shape. Similarly, creation involves drawing out, from the unlimited actuality that is God, various *limited ways* of being actual. To be a stone or a tree or a dog is to be actual, but it is to be actual only *as* a stone or tree or dog *rather than* some other kind of actuality—just as to be green is to be a color but to be that specific color *rather than* (say) red or any of the other colors of the spectrum, and to be a cookie of a round shape is to be round *rather than* being (say) square or any of the other shapes which might have been taken from the dough. (Again, these analogies are not perfect but only meant to be suggestive. For one thing, created things are not *made out of* God in the way cookies are made out of dough, since God, being devoid of potentiality, is not a kind of material which might take on different patterns.)

Now, just as if you knew the white light perfectly, you would know all the colors which could be derived from it, and if you knew the lump of dough perfectly, you would know all the shapes which might be carved out of it, so too, perfectly to know that which is pure actuality would entail knowing all the various limited ways of being actual which might be derived from it. And that is how God knows all the various kinds of finitely actual things which exist or might exist—by virtue of perfectly knowing himself as that which is pure or unlimited actuality. That is not to say that his knowledge is *exactly* like that of someone who grasps the nature of white light or of dough, but it is *analogous* to that. And even if the analogy is imperfect, that is, as I have said, only to be expected given how very far beyond its ordinary sphere of operation reason has to push itself when seeking ultimate explanations. (More on this below.)

Perfect goodness

In order to see that God must be perfectly good, we need first to understand what goodness and badness are. Many people these days suppose that judgments to the effect that something is good or bad are ultimately mere expressions of subjective preference. But it is not

difficult to show that that is not the case. Consider a Euclidean triangle, the nature or essence of which is to be a closed plane figure with three straight sides. Anything with this essence must have a number of properties, such as having angles that add up to 180 degrees. These are, as we saw in chapter 3, objective facts that we discover rather than invent. Nevertheless, there are obviously triangles that fail to live up to this definition. A triangle drawn hastily on the cracked plastic seat of a moving bus might fail to be completely closed or to have perfectly straight sides, and thus its angles will add up to something other than 180 degrees. Even a triangle drawn slowly and carefully on paper with an art pen and a ruler will contain subtle flaws. Still, the latter will far more closely approximate the essence of triangularity than the former will. It will, accordingly, be a *better* triangle than the former. We would naturally describe the latter as a *good* triangle and the former as a *bad* one. This judgment would be completely objective; it would be silly to suggest that we were merely expressing a personal preference for straightness or for angles that add up to 180 degrees. The judgment simply follows from the objective facts about the nature of triangles.

Or consider a living thing and its characteristic attributes and operations, such as a tree and the way in which it sinks roots into the ground, draws in water and nutrients through them, grows leaves which carry out photosynthesis, and so forth. These are potentialities that the tree has by virtue of being a tree, and which it must actualize in order to flourish as a tree. That is to say, these potentialities and the need to actualize them follow from the nature of essence of being a tree. A tree which, due to damage or disease, fails to sink deep roots or grow healthy leaves is to that extent a bad tree, while a tree which actualizes these potentials is to that extent good. Again, it would be silly to pretend that this judgment reflects merely a personal subjective preference for healthy trees. Rather, it is grounded in the objective facts about *what it is to be* a tree.

The sense of "good" and "bad" operative here is the one that is operative when we speak of a good or bad specimen, a good or bad instance of a kind of thing. It has to do with a thing's success or failure in living up to the standard inherent in the kind of thing it is. And this notion of goodness and badness applies to everything, since everything is a thing of a certain kind. Goodness and badness

can be defined objectively, then, in terms of the natures or essences of things.[52] Of course, the examples given so far do not involve *moral* goodness or badness, since a badly drawn triangle is not morally blameworthy and a healthy tree is not morally praiseworthy. But distinctively moral goodness and badness can be understood as special cases of these more general notions. Moral goodness and badness enter the picture with creatures capable of *freely choosing* to act in a way that either facilitates or frustrates the actualization of the potentials which, given their nature or essence, they need to realize in order to flourish. Human beings are *rational* animals and for that reason capable of such free action. Moral goodness or badness in human beings involves the deliberate choice either to act in a way that facilitates the actualization of the potentials we need to realize in order to flourish as human beings, or to act in a way that frustrates the realization of those potentials.[53]

Now, note that goodness involves being *actual* in a certain way—again, in a way that involves realizing what is implicit in the nature or essence of a thing. A triangle is good to the extent that its sides are *actually* straight, a tree is good to the extent that it *actually* sinks roots into the ground and carries out photosynthesis, and so forth. Badness, meanwhile, involves a *failure* to be actual in some way—again, in a way that involves *failure* to realize what is implicit in the nature or essence of a thing. A triangle is bad to the extent that its sides are not perfectly straight, a tree is bad to the extent that its roots are weak or it fails to carry out photosynthesis, and so on. Badness is therefore a *privation*—that is, the *absence* of something that a fully actualized specimen of a kind of thing would possess, given its nature. Lacking a fourth side is not a privation in a triangle, because a fully

[52] For more detailed discussion, see Edward Feser, "Being, the Good, and the Guise of the Good", in *Neo-Aristotelian Perspectives in Metaphysics*, ed. Daniel D. Novotny and Lukas Novak (London: Routledge, 2014), pp. 84–103, reprinted in Feser, *Neo-Scholastic Essays*, pp. 297–320. See also Eleonore Stump and Norman Kretzmann, "Being and Goodness", in *Being and Goodness: The Concept of the Good in Metaphysics and Philosophical Theology*, ed. Scott MacDonald (Ithaca, N.Y.: Cornell University Press, 1991), pp. 98–128; Philippa Foot, *Natural Goodness* (Oxford: Clarendon Press, 2001), chap. 2; and David E. Alexander, *Goodness, God, and Evil* (London: Bloomsbury, 2012).

[53] Obviously much more could be said, but ethics is not the subject matter of this book. For further discussion, see Edward Feser, *Aquinas* (Oxford: Oneworld Publications, 2009), chap. 5, and the articles on topics in moral philosophy in Feser, *Neo-Scholastic Essays*.

actualized specimen of the kind of thing we call a triangle would not have four sides in the first place. But having a crooked or wavy side is a privation in a triangle, because a fully actualized specimen of the kind of thing we call a triangle would have straight sides. Lacking wings is not a privation in a tree, because a fully actualized specimen of the kind of thing we call a tree would not have wings in the first place. But lacking strong roots is a privation in a tree, because a fully actualized specimen of the kind of thing we call a tree would have strong roots.

Goodness and badness, then, are not on a metaphysical par. Goodness is primary, since it is to be understood in terms of the *presence* of some feature. Badness is derivative, since it amounts to nothing more than the *absence* of some feature, and in particular the absence of *goodness* of some kind or other. Goodness is a kind of *actuality*, and badness a kind of unrealized *potentiality*. To be bad in some respect is, ultimately, to *lack* something rather than to have something, just as to be blind is simply to lack sight rather than to have some positive feature.

This "privation" account of badness, standard in classical philosophy (whether Platonic, Aristotelian, or Scholastic), is rejected by many contemporary philosophers, but not for reasons that are ultimately any good.[54] For example, it is sometimes alleged that the privation account, since it regards all badness as the absence of good, thereby denies the reality of evil. But that is simply not the case. To point out that blindness is the absence of sight is not to deny the reality of blindness. Similarly, to claim that evil, as a kind of badness, is the absence of good is not to deny the reality of evil. It is merely to give an account of the *nature* of that reality, just as pointing out that blindness involves a failure of the eyes, the optic nerves, or the like properly to function is to give an account of the nature of blindness.[55]

It is also sometimes claimed that *pain* is bad, but is not a kind of privation, not the *absence* of something but precisely the *presence* of something. But there are several problems with this objection.[56]

[54] See Alexander, *Goodness, God, and Evil*, pp. 95–110.

[55] See Brian Davies, *The Reality of God and the Problem of Evil* (London: Continuum, 2006), pp. 147–48.

[56] See Alexander, *Goodness, God, and Evil*, pp. 100–8.

First of all, it is not correct to say *without qualification* that pain is bad. For pain serves the functions of indicating to an organism that something is wrong, that there is danger that it needs to avoid, and so forth. In that sense, pain can sometimes be *good*, and its absence bad. For example, it would be bad for an organism if it did not feel pain when making contact with something liable to burn it, because in that case the organism would not act promptly so as to get itself away from that thing. Furthermore, there are cases where pain is not even experienced as bad. For example, the pain one feels after a strenuous workout can be experienced as satisfying. What is bad is not the pain itself, then, but something associated with it—for example, the bodily dysfunction or damage of which the pain is an indicator, or the loss of tranquility of mind that is its consequence. (Indeed, there is neurological evidence of this. Certain kinds of damage to the brain can result in a strange condition known as *pain asymbolia*, in which pain is experienced without the unpleasantness usually associated with it.)

Then there is the objection that certain kinds of moral evil cannot be analyzed in terms of privation. Murder, the privation account holds, involves the failure to respect the duty not to kill an innocent person. But this, it has been objected, is not the end of the story, since we must attribute to the murderer the intention unjustifiably to take an innocent person's life, and his having that intention is a positive fact about him rather than a privation. And even if we analyze the unjustifiability of the killing in terms of some privation, we will still have to make reference to some *other* positive features of the murderer, such as the presence of certain beliefs and desires.[57]

But as David Alexander points out, this objection rests on a misunderstanding of the privation theory.[58] The theory does not claim that an analysis of a morally evil act will make no reference to *any* positive features. It says only that the *badness* of the act, specifically, will be analyzable in terms of privation, even if *other* aspects of the act are positive features rather than privations. Hence, a murderer

[57] Todd C. Calder, "Is the Privation Theory of Evil Dead?", *American Philosophical Quarterly* 44 (2007): 371–81.

[58] Alexander, *Goodness, God, and Evil*, pp. 109–10.

will indeed have certain beliefs and desires, and to have a belief or desire is per se really to *have* something rather than to lack something. The belief or desire may in itself even be good. For example, if the murder is motivated by the desire to acquire some money, that desire considered *by itself* is good. What is bad is the absence of an intention to seek money only in a way consistent with respect for the rights of the innocent.

But isn't sadism an example of moral evil which cannot be analyzed in terms of privation? For a sadistic killer does not merely fail to respect the rights of the innocent; he positively takes pleasure in inflicting harm on them. And isn't this precisely the presence of something (namely, sadistic desire) rather than the absence of something? But sadistic desire is analyzable as desire that is *mis*directed, directed toward an end *contrary to* the concern for others which we need to cultivate in order to flourish as social animals. It involves a psychological deformity or defect, just as blindness involves a physiological deformity or defect. Of course, fully to justify this analysis would require an excursus into ethics which is beyond the scope of this book. But it suffices for present purposes to show that sadism is no more resistant to a privation analysis than any other kind of badness or evil.

So, the objections to the privation account all fail.[59] And so we have, again, an account on which to be good is to be *actual* in some way, whereas to be bad is to *fail* to actualize some potential. Now, we have seen that God is purely actual, with no potentiality. But if actuality corresponds to goodness and badness to unrealized potentiality, then we have to attribute to God pure goodness and the utter absence in him of any sort of badness or evil. So to argue is to draw out the implications of God's nature as pure actuality taken together with the account of goodness we have been sketching, but we can arrive at a similar result by reasoning instead from what is true of the world to what must be true of its cause. For given the principle of proportionate causality, whatever good there is or could be in the world must in some way be in God. But if something is the source of

[59] For more on the nature of privation, see David S. Oderberg, "The Metaphysics of Privation", in *New Scholasticism Meets Analytic Philosophy*, ed. Rafael Hüntelmann and Johannes Hattler (Heusenstamm: Editiones Scholasticae, 2014), pp. 63–88.

all possible goodness, then there is an obvious sense in which it is all good.

But if, as the principle of proportionate causality holds, whatever is in an effect must in some way be in its cause, wouldn't it follow that all badness or evil too must be in God? That does not follow. The reason is that, as we have seen, badness of any sort is the *absence* of something, rather than a positive reality in its own right. Hence, while it is perfectly true to say that there is evil in the world, what this *amounts* to on analysis is simply that certain good things are absent from the world. Thus, making a world with evil in it is not a matter of making two kinds of thing, good things and bad things. Rather, it is only a matter of making good things, but also refraining from making some of the good things that could have been there. Suppose I begin to draw a triangle on a piece of paper, but after drawing two sides and starting to draw the third, I stop before the side is finished. The triangle, being defective, manifests a certain kind of badness. But the badness is not some extra thing I have put into it after drawing the triangle. Rather, the badness amounts to the absence of something I refrained from putting there. It is in that sense that God creates a world with evil in it. Evil is not some *thing* that God has put into the world alongside all the good things he has put there. Rather, evil is the absence of certain good things he refrained from putting there. Now, what the principle of proportionate causality entails is that whatever *things*, whatever *positive* features, are in an effect must in some way be in its total cause. But since that is not the sort of thing evil is, the principle does not entail that evil must in any way be in God.

Yet wouldn't God's failure to create all the good he could have created constitute a defect in him? No. Would my failure to finish drawing the triangle in my example indicate the presence of a defect in me? Not at all, since I might have a very good reason for not finishing it. For example, it may have occurred to me that there was no more effective way to make a certain philosophical point during the course of a lecture than by drawing an incomplete triangle and then going on to use it as an example. The good effect of generating philosophical understanding in my listeners would outweigh the trivial instance of badness represented by the imperfect triangle. Considered in isolation, the incomplete triangle is bad, but the overall situation

consisting of the triangle together with the lecture, the audience members' coming to understand a certain philosophical point, and so forth is good, and it is a good that would not have been possible without allowing into it this element of badness.

Similarly, God's refraining from causing all the particular good things he could have caused is consistent with his being perfectly good insofar as the overall creation is good in ways it could not have been had certain localized instances of badness not been permitted to exist. To take just one example, courage could not exist unless people faced real danger of suffering harm and yet did the right thing anyway. But courage is good and suffering harm bad. Hence, a world with that particular good in it could not exist unless that particular sort of badness also existed in it. Hence, just as even God cannot cause a round square to exist, neither can he cause a world to exist in which there is courage but where no one faces any real danger of suffering harm.[60] Hence, God's being perfectly good is consistent with the world he causes having badness in it as well as goodness. (More on this in the next chapter, when we get to the problem of evil.)

Will

Again, among the characteristic operations of a tree are the sinking of roots into the soil and the carrying out of photosynthesis. The tree of its nature *tends* or *inclines* toward these activities and will carry them out unless somehow prevented (by disease or damage, say). Of course, it does not pursue these activities *consciously*. The tending or inclination is completely unconscious and involves no mental life at all. Animals also have natural tendencies or inclinations. A dog, for example, will naturally seek out food, water, and mating opportunities. Since animals are sentient, their pursuit of such activities *is* conscious. They possess what in the traditional jargon would be called *sensory appetite*. Then there are rational creatures, like human beings. Like other animals, we can pursue our

[60] Would it follow from this that there is no courage in Heaven, since the blessed in Heaven are safe from any danger? No, because while still on earth the blessed *were* in danger and thereby developed the courage that they retain in Heaven. They don't lose this virtue any more than an eighty-year-old war veteran loses the courage he acquired in battle decades earlier.

various characteristic activities consciously, but unlike other animals, we have intellects and can *conceptualize* the objects of such pursuit. We tend or incline toward something because we *rationally apprehend* it as worth pursuing, or incline away from something because we rationally apprehend it as not worth pursuing. We possess *rational appetite* or *will*.

Now, we have seen that there is in God something analogous to what we call intellect in us. And there must, accordingly, also be something in God analogous to what we call will in us. For one thing, just as a tree or a dog tends or inclines toward the realization of its nature (in a nonrational way), and a human being tends or inclines toward the realization of its nature (in a rational way), so too must God tend or incline toward the realization of his nature (in a rational way). To be sure, unlike these other things, God does not have to *do* anything to realize his nature, since he is always and already fully actual. But in this he is more like something which has completed the realization of its nature than he is like something which never tended or inclined toward such realization in the first place. We might say that there is in him something like the limit case of rational appetite.[61] For another thing, God apprehends *all* the things that could exist, and *causes some* of those things actually to exist while *refraining* from causing others of them to exist. Hence, there must exist in him something analogous to *willing* the former and not willing the latter.

God's will must also be *free*. For one thing (and as we have seen), everything other than God depends on God for its existence and operation at every instant at which it exists or acts. So, there cannot be anything external to God which somehow compels him to act as he does. For another thing (and as we have also seen), all possibilities are grounded in the divine intellect, and what actually exists preexisted in God as an idea or concept of something which he might create.

[61] The idea that a divine attribute can be understood as a limit case is developed by Barry Miller in *A Most Unlikely God*. As Miller notes (pp. 7–10), a limit case is not the same thing as a limit simpliciter, which differs only in degree from that of which it is a limit. The speed of light is a limit simpliciter, which differs in degree from lower speeds. But a speed of 0 km/s is not a lowest speed, because it is not a speed at all. It differs absolutely and not merely in degree from the speeds of which it is a limit case. Nevertheless, the ways in which the different degrees of speed are ordered *point to* this limit case. Similarly, we might think of the divine will as the limit case to which the appetites we see in plants, animals, and human beings point.

For example, the concept of a lion and the concept of a unicorn both exist in the divine intellect, and God willed to create things that fall under the former concept but did not will to create things that fall under the latter concept. Now, there is nothing in the concept of a lion that makes it necessary that lions exist, nor is there anything in the concept of a unicorn that makes it necessary that unicorns do not exist. Nor is there anything about any *other* concept that necessitates that the former exist and the latter do not. Before creation, then, a world with unicorns in it was as possible as a world with lions in it. Given his knowledge of the possible thing he might create, God could have created either one. So, there was nothing internal to him which compelled him to create lions and not unicorns. But if there is nothing either external to God or internal to him compelling him to act as he does, then his will is free.[62]

It is sometimes claimed that God's will could not be free given the doctrine of divine simplicity. For to act freely entails (so the objection goes) that one has the *potential* to act one way rather than the other, and that one goes on to actualize one of these potentials rather than the other. But according to the doctrine of divine simplicity, God is purely actual and lacks any potentiality. Hence, he must not be free. Or, if he is free, he must after all have potentialities as well as actualities and therefore not be absolutely simple or noncomposite.[63]

However, it is simply not the case that free action as such entails the having and actualization of potentials. It is true that when *we* freely will to do one thing rather than another, we actualize various potentials (for example, the potential to move a limb in this direction rather than that one). But to conclude that all free action as such must involve the actualization of potentials would be to commit a fallacy of

[62] See Brian Davies, "Simplicity", in Taliaferro and Meister, *Cambridge Companion to Christian Philosophical Theology*, pp. 42–44.

[63] See Norman Kretzmann, *The Metaphysics of Theism* (Oxford: Clarendon Press, 1997), pp. 213–17, and Jay Wesley Richards, *The Untamed God* (Downers Grove, Ill.: InterVarsity Press, 2003), pp. 234–40. Kretzmann and Richards both regard divine simplicity and divine freedom as in tension, but they resolve the tension in different ways. Kretzmann does so by maintaining that God is simple or noncomposite in a strong sense and free only in some weaker sense. Richards does so by maintaining that God is free in a strong sense and simple or noncomposite only in some weaker sense. See Dolezal's comparison of their positions in James E. Dolezal, *God without Parts: Divine Simplicity and the Metaphysics of God's Absoluteness* (Eugene, Ore.: Pickwick Publications, 2011), pp. 191–97.

accident, just as (as we saw above) to suppose that all action involves changeability involves a fallacy of accident.

To be sure, it is difficult to get one's mind around the idea of that which wills freely but which lacks potentialities, just as it is difficult to get one's mind around the idea of that which acts but does not change. As Brian Davies notes, it is easier to understand the assertion that God's will is free as a claim of *negative* theology—to the effect that God is *not* compelled to act by anything external or internal to him—than as a claim with positive content.[64] But all of this is only to be expected given that, as I have emphasized already, when we arrive at the notion of an uncaused cause of all things we are moving as far beyond the world of everyday experience as is possible. We know, from the considerations adduced above, *that* God must be both absolutely simple and free, and we know also that we should expect that his nature will be extremely difficult for us to grasp. That the freedom of the divine will is mysterious to us is hardly surprising, and hardly *by itself* a serious objection to the claim that God is both simple and free. (And after all, the freedom of *our* wills is famously mysterious too.)

Finally, it might be thought that there are reasons having nothing to do with mystery or with divine simplicity for denying that the divine will is free. Leibniz famously held that, given his omnipotence, omniscience, and perfect goodness, God must create the best of all possible worlds. For him to do anything else would seem to entail either that he could not create the best possible world (which would conflict with his being omnipotent), or that he did not know what the best world would be (which would conflict with his being omniscient), or that he did not will to create the best world (which would conflict with his perfect goodness). Yet if he could not have done other than to create the best possible world, would that not entail that he was not *free* not to do so?[65]

But among the assumptions made by this argument are (a) that one is always obliged to bring about the best state of affairs that one can, and (b) that there is such a thing as the best possible world.[66] And

[64] Davies, "Simplicity", p. 44.

[65] For a recent presentation of this objection to divine freedom, see William L. Rowe, *Can God Be Free?* (Oxford: Clarendon Press, 2004).

[66] See Gerard J. Hughes, *The Nature of God* (London: Routledge, 1995), p. 173.

neither assumption is correct. Suppose, for the sake of argument, that a world with trees in it is a better world than a world that has only inorganic objects like stones and water. Is God obliged to create the former world rather than the latter? Why? Who will suffer a harm or injustice if he refrains from doing so? He cannot harm himself by so refraining. He is already perfectly good, fully actual, and so forth. There is nothing he needs, nothing he has to do, in order to flourish as the kind of thing he is. Hence, he need not create any world at all, let alone a world with trees in it. Would he somehow harm the trees themselves by not creating them? But how can you harm something that does not even exist? To be sure, if he created trees without also creating the things trees need in order to flourish—water, sunshine, and so forth—then he might be said to harm them. But that is because they *would* in that case exist. If he refrains from creating them at all, he does not thereby wrong them, whether or not he goes on to create water, sunshine, and so forth, because what does not exist in the first place cannot be wronged.[67]

Nor is there such a thing as the best possible world in any case.[68] Again, suppose a world with trees is better than a world without. A forest of trees would in that case surely be better than a single tree, and a world with multiple forests better than a world with merely one forest. But there is no upper limit to the number of forests that might exist, so that for any possible world with x forests in it, there will be a possible world with $x + 1$ forests that is thereby even better. Hence, there is no such thing as a best possible world, and thus God cannot be obliged to create such a world, any more than he can be obliged to create a round square.

An objection that has been raised against the claim that there is no such thing as a best possible world is that it conflicts with the idea that God is the most perfect being possible.[69] Suppose God creates a world with one of the infinitely many degrees of goodness that a world might possibly have. For example, suppose God creates a world with x forests in it. Then it will be possible for there to be a still more perfect being—namely, one which creates a world with $x + 1$ forests.

[67] See Robert Adams, "Must God Create the Best?", *Philosophical Review* 81 (1972): 317–32.
[68] See Aquinas, *Summa Theologiae* I.25.6.
[69] Rowe, *Can God be Free?*, pp. 110–11.

And a being which creates a world with $x + 2$ forests will be more perfect still, and so on ad infinitum. But then we cannot say that God is the most perfect being; or to be more precise, we cannot say that there is a perfect being at all, so that (if something must be perfect in order to be God) we also cannot say that there is a God.

But this objection presupposes that God's perfection depends on what he *does*. And that is simply not the case. God's perfection follows from what he *is*. In particular, it follows from his pure actuality and everything that that entails. He thus has it whatever he creates, or indeed whether he creates anything at all—just as a perfect diamond is a perfect diamond whether it cuts glass that is an eighth of an inch thick or glass that is a quarter of an inch thick, or indeed whether it ever cuts any glass at all. Of course, given that *agere sequitur esse*, we would expect that a perfect being would have the *capacity* to create any of the infinite number of possible worlds. But that doesn't entail that it must in fact exercise that capacity in any particular way, or exercise it at all—just as a diamond will have the capacity to cut a large range of kinds of glass whether or not it cuts this particular kind of glass or that, or whether it actually ever cuts any glass at all. So, contrary to the objection under consideration, whether God creates a world with x forests in it, or $x + 1$, or any other number of forests, is completely irrelevant to whether he is the most perfect possible being.

Love

It is sometimes claimed that if God is immutable, then he cannot be said to *love* his creation. For love (so the argument goes) entails the capacity to be *affected* by the beloved. Think of the way a parent becomes worried when a child is in distress, or a romantic lover is unable to stop thinking about the object of his affection. Now, to be affected in such ways is to be *changed*. Therefore (the argument concludes) if God is immutable, then he does not love his creatures.

But once again, what we have here is an argument that commits a fallacy of accident. It is true that when *we* love something, we tend also to be affected or changed by it in ways like the ones described. But it doesn't follow that love *as such* entails changeability. For what is essential to love is that the lover *will what is good* for the beloved.

That is why we regard love as superficial if it *merely* involves feelings which are generated by the presence or thought of the beloved, but which wax and wane. That the lover wills what is good for the beloved even at those times in which he is not feeling particularly affectionate is what makes his love a serious one. This is also why there is such a thing as "tough love", and love for one's enemies. When one has to do something to the beloved, for his own good, that one's feelings of affection would incline one not to do, or when one has to do some good for a person that one intensely dislikes, the *will* to do these things suffices to make the acts loving despite their conflict with one's feelings. Again, love is essentially a matter of one's *will*, which is active, rather than one's emotions, which are passive.

Now, as we have seen, there is will in God, and his will is directed toward the creation of the world. We have also seen that to be good is to be actual in some way. But to create things is to actualize them, and thus to bring about all the goodness that follows from that actuality. For example, to create trees entails willing that trees exist, and thus willing that what is good for trees—their having roots that take in water and nutrients, their carrying out photosynthesis, and so forth—also exists. In that sense, that God creates things entails that he loves them. So, we must attribute love to God.[70]

Incomprehensibility

Can we comprehend God? In a loose sense, we certainly can, and the arguments of this chapter and the earlier chapters show that we can. The first five chapters set out arguments for the existence of God, and the present chapter (along with the earlier chapters, in less detail) set out arguments to the effect that God must have various attributes. To understand such arguments and to see that they are correct just is to comprehend God, at least to some extent.

Of course, much of what we know of God's nature is of a negative or apophatic sort. We know that he is *not* composite, *not* changeable, *not* material, and *not* in time or space. But that is real knowledge, and

[70] See Aquinas, *Summa Theologiae* I.20. For a recent book-length treatment, see Michael J. Dodds, *The Unchanging God of Love*, 2nd ed. (Washington, D.C.: Catholic University of America Press, 2008).

to have it really is to understand at least *something* of God's nature. We have also seen that the terms we use to name God's positive attributes have to be understood analogically rather than univocally. But that too gives us real knowledge. The analogical language in question is not metaphorical but literal, and such analogical usage occurs in domains of knowledge other than theology.

In particular, the analogy of attribution and the analogy of proper proportionality give us ways to understand positive divine attributes like power, knowledge, goodness, will, and love. The analogy of attribution gives us at least a first approximation to understanding such attributes as omnipotence, given that, as we have seen, all things other than God have whatever causal power they have only insofar as they derive it from God as their cause. When we say that God has power and that the sun has power (e.g., to melt ice), God is the "primary analogate" of such a predication insofar as he *just is* pure underived causal power, whereas the sun and other created things are "secondary analogates" insofar as their causal power is dependent at every instant upon God. Other divine attributes (such as God's goodness) can similarly be understood in terms of the ways in which we can predicate certain features of created things only insofar as they derive those features from a divine cause.

The analogy of proper proportionality provides a further means of grasping the positive attributes of God. Recall that, despite the vast differences between the eyes and the intellect, we can nevertheless speak both of *seeing a tree* and of *seeing that the Pythagorean theorem is true* because the intellect is to the Pythagorean theorem as the eyes are to a tree. There is a "proportional similarity" between the relation of the eyes to the tree and the relation of the intellect to the theorem. Similarly, we can speak of the goodness of a healthy specimen of a tree, the goodness of a morally virtuous human being, and the goodness of an angel like Saint Michael, because a tree is to its goodness as a human being is to his goodness as an angel is to his goodness. This is so even though the goodness involved in each case is very different. The goodness of a tree is realized gradually over time, via unconscious natural growth processes. The goodness of a virtuous human being is also realized gradually over time, but as the result of deliberate choices, sometimes made in the face of disordered bodily desires (such as excessive desire for alcohol). The goodness of an angel is also

the result of deliberate choice, but not over time and not in the face of contrary bodily desires.[71]

Now, by the same token, God is to his goodness as an angel is to his goodness, a human being to his goodness, and a tree to its goodness, even though God's goodness is even more radically different. Unlike a good angel, who might have chosen evil instead, God cannot possibly *not* be good, since he is pure actuality with no unrealized potentiality at all. If the goodness of an angel is more perfect than that of a human being (since, lacking bodily desires even of a well-ordered sort, there is less that might "go wrong" in the case of an angel), the goodness of God is more perfect still. We might think of it as the limit case of goodness.[72] And God's knowledge, will, and so forth can in like manner be understood in terms of proportional similarity.

So, insofar as the position we have arrived at is rationalist as opposed to fideist, and by no means amounts to a purely negative theology, it clearly holds that we can, at least in a loose sense, comprehend God. But having said that, the position we have arrived at also implies that this can be true *only* in a loose sense. For it also entails that in the *strictest* sense, we *cannot* possibly comprehend God.[73] Divine simplicity guarantees that. Consider that when we come deeply to understand some material object or system, we do so in part by learning what components it has and how they are arranged. But we cannot do that in the case of God, since he is absolutely simple or noncomposite. Even with immaterial things, we understand them in terms of the genus they fall under and the specific difference that sets them off from other species in the same genus. But that too is impossible in the case of God, since there is in him no distinction to be made between genus and specific difference. In general, we comprehend things in the fullest sense when we are able to break them down into their parts and see how those parts are put together, and this method is inapplicable to that which is noncomposite. You might say that God

[71] Let the skeptical reader note that whether angels actually exist is irrelevant to the present point, which is merely that *if* there is a rational but incorporeal sort of creature intermediate between human beings and God, then it would provide a further instance of something having goodness in an analogous sense.

[72] See the discussion of Barry Miller's notion of a limit case in n. 61, p. 224, above.

[73] See Aquinas, *Summa theologiae* I.12.7.

is hard to understand precisely because he is simple. (That sounds paradoxical, but it is not, because by "simple" here I don't mean "easy to understand" but rather "not composed of parts".)

This is why, though the doctrine of analogy gives us a grip on the language we use to talk about God, the grip is somewhat tenuous. As we strip away from our conception of God all the limitations associated with *creaturely* goodness, knowledge, power, and so forth, the positive content of our predications about God thins out—by no means entirely, but enough that even a "rationalist" theology of the sort defended in this book leaves God's nature mysterious.

This is by no means a resort to obscurantism. On the contrary, it is precisely what we should expect of *any* attempt at ultimate explanation. As noted above, it is difficult to grasp what it can mean for something to exhibit properties both of waves and of particles, or for space itself (as opposed to the things that occupy space) to be curved. And yet physics tells us that there are such entities. To anyone who is skeptical of such notions, the physicist can rightly respond that we can hardly be surprised if we end up saying very odd things when we investigate the microstructure of material reality or the large scale structure of time and space. For such investigation takes us very far from the everyday world of our experience, in which the language we use has its origin and its natural home. In speaking of such odd entities, the physicist is not resorting to obscurantism, but rather merely following the evidence and rational argumentation based on it where they lead. Now, exactly the same thing is true of natural theology of the kind defended in this book. Indeed, the arguments we have been examining take us to a level of reality deeper than those investigated by physics, indeed the deepest possible level of reality. And it is the arguments themselves which tell us that we cannot have anything more than a somewhat feeble grasp of the nature of that reality.

God and the world

Conservation and concurrence

The Aristotelian, Neo-Platonic, Thomistic, and rationalist arguments for the existence of God defended in previous chapters all show that nothing that is distinct from God could continue in existence even

for an instant if God were not sustaining it in being. They thereby establish what is known as the *doctrine of divine conservation*, according to which the world would be instantly annihilated in the absence of divine causation. Creation is not a onetime event that occurred at some distant point in the past. It is occurring at every moment.

These arguments also thereby answer the rival thesis of "existential inertia", according to which at least some of the things that make up the world will, once they exist, tend to continue in existence on their own at least until something positively acts to destroy them.[74] If something has this kind of "existential inertia", it is claimed, then it need not be conserved in being by God. One problem with this thesis is that its proponents never explain *exactly what it is* about a material object or any other contingent thing that could give it this remarkable feature. It is merely suggested, without argument, that things might have "existential inertia", as if this were no less plausible than the claim that they are conserved in being by God. Another problem with the thesis is that no material thing, nor any other contingent thing, *possibly could* have such a feature. The reason is that, as we have seen, all such things are composite, and in particular are mixtures of actuality and potentiality and of essence and existence, and anything that is composite in such ways requires a sustaining cause. Anyone who claims otherwise has the burden of answering those arguments of the previous chapters. Merely suggesting that things might have "existential inertia" is not to *answer* those arguments but simply to *ignore* the arguments.[75]

[74] See John Beaudoin, "The World's Continuance: Divine Conservation or Existential Inertia?", *International Journal for Philosophy of Religion* 61 (2007): 83–98; Mortimer Adler, *How to Think about God* (New York: Collier/Macmillan, 1980), esp. chap. 13; and Bede Rundle, *Why There Is Something Rather Than Nothing* (Oxford: Clarendon Press, 2004), pp. 93, 96–97. I respond to Beaudoin's, Adler's, and Rundle's arguments at length in my article "Existential Inertia and the Five Ways", *American Catholic Philosophical Quarterly* 85 (2011): 237–67, reprinted in Feser, *Neo-Scholastic Essays*, pp. 84–117.

[75] It also simply ignores the arguments merely to suggest, as atheists sometimes do, that even if there must be a necessary being, it might be the world rather than God. Nothing that is a mixture of actuality and potentiality, or has an essence distinct from its existence, or is composite in any way, can be necessary. So, since the world is all of these things, it cannot be a necessary being. Or, as Aquinas argues in his Third Way, even if something other than God did have necessity in *some* sense, it would nevertheless be only a *derived* sort of necessity that presupposes God as its source. See Feser, *Aquinas*, pp. 90–99, and Feser, "Existential Inertia and the Five Ways".

Now, though material things are at every moment dependent for their existence on God, they are *distinct from* God. This follows from the fact that they are composite whereas God is simple, are mixtures of actuality and potentiality whereas God is pure actuality, have essences distinct from their existence whereas God just is subsistent existence, and are contingent whereas God is necessary. The arguments of this book thus rule out a *pantheist* conception of God, which would identify him with the world. (They also rule out a *panentheist* conception of God, on which God is not identical with the world but is still present in the world in such a way that he is changed by it. As I argued above, given that God is pure actuality and absolutely simple, he must be immutable or unchanging.)

Now, these two theses—that things are dependent for their existence on God but are distinct from God—when conjoined with the principle *agere sequitur esse*, yield a conception of divine causality known as the *doctrine of divine concurrence*. This "concurrentist" position is perhaps most easily understood by comparison with two rival views known as *occasionalism* and *mere conservationism*.[76] Occasionalism holds that nothing in the created world has any causal efficacy at all, and that only God ever really causes anything to happen. For example, when you leave a glass of iced tea outside and the ice cubes melt in the sun, it is not the sun that causes the ice to melt, according to occasionalism. Rather, it is God who causes them to melt. That he does so on the occasion that the sun is out is what makes it falsely seem that the sun is what is melting the ice. Similarly, it is not the cue ball which causes the eight ball to go into the corner pocket. Rather, it is God who causes the eight ball to go into the corner pocket on the occasion when the cue ball makes contact with it. And so on. The *first* cause, on this view, is the *only* cause, and nothing else has even any secondary or derivative causal power. Mere conservationism, meanwhile, holds that although God keeps things in existence,

[76] For illuminating discussion of these three approaches to understanding divine causality, see Alfred J. Freddoso's articles "Medieval Aristotelianism and the Case against Secondary Causation in Nature", in *Divine and Human Action: Essays in the Metaphysics of Theism*, ed. Thomas V. Morris (Ithaca, N.Y.: Cornell University Press, 1988), pp. 74–118; "God's General Concurrence with Secondary Causes: Why Conservation is Not Enough", *Philosophical Perspectives* 5 (1991): 553–85; and "God's General Concurrence with Secondary Causes: Pitfalls and Prospects", *American Catholic Philosophical Quarterly* 67 (1994): 131–56.

they have their causal efficacy independently of him. God keeps the sun in existence, but the sun melts the ice cubes independently of God; God keeps the cue ball in existence, but the cue ball causes the eight ball to move independently of God; and so forth.

Concurrentism rejects these two views and takes a middle-ground position between them. Against occasionalism, it maintains that the sun, the cue ball, and all other created things have genuine causal power. Against mere conservationism, it maintains that created things nevertheless cannot exercise this causal power independently of God. For neither of these extreme positions can be correct given what has been argued above.

Consider first why occasionalism cannot be correct.[77] Since *agere sequitur esse*—what a thing *does* necessarily reflects what it *is*—if something could not truly *do* anything, if it had no causal efficacy at all, then it would not truly *exist*. Occasionalism would thus entail that God alone truly exists, since only he truly does anything. And this cannot be right. For one thing, we know that things other than God *do* exist—tables, chairs, rocks, trees, and so on. Even if you were seriously to entertain the possibility that those things do not really exist after all but were somehow mere hallucinations you were having, you would still know that *you* exist. And you are not identical to God. After all, the very fact that you are thinking through these various possibilities entails that you are changeable—you move from one thought to the next to the next—whereas God is immutable. The fact that you would not be certain whether tables, chairs, and so forth exist would show that you are not omniscient, whereas God is omniscient. The fact that you lack power in various ways—for example, you could not make yourself stop experiencing tables, chairs, and so forth, even if you convinced yourself that they are not real—shows that you are not omnipotent, whereas God is omnipotent. And so forth. So, you know that at least one thing other than God exists, which would not be true if occasionalism were true.[78]

[77] See Aquinas, *Summa Contra Gentiles* III.69.

[78] This is, incidentally, why it is no use for someone to try to defend pantheism by claiming that the world of our experience is illusory. The idea would be that if the change, multiplicity, and contingency of the world are illusions, then there would be no obstacle to identifying the world with the immutable, simple, and necessary God. The problem is that there would still in that case have to be someone or something that *has* these illusions, and *that* person or

For another thing, even if you could coherently deny the existence of yourself along with everything else, occasionalism would still leave us with an incoherent position in another way. For we arrived at the idea of God as First Cause only because we reasoned from the existence of things other than God which require him as a cause. For example, we started with the idea that certain things change, inferred that they must be mixtures of actuality and potentiality, and deduced in turn that there must be a purely actual cause which sustains them in existence. We started with the idea that certain things are composite, inferred that there must be something that causes their component parts to be combined, and deduced in turn that the ultimate cause must be simple or noncomposite. And so on. If we now say that God alone exists, we would be abandoning the very grounds that led us to affirm the existence of God as First Cause in the first place. It would be like someone who slowly and carefully climbs a ladder, then pulls out a ray gun and blasts it out from under him—he would fall to the ground, making his cautious ascent entirely pointless.[79]

Consider now why mere conservationism cannot be correct. Since *agere sequitur esse*—again, what a thing *does* necessarily reflects what it *is*—if something could *do* what it does independently of God, if it had causal efficacy apart from any divine assistance, then it could *exist* independently of God. We would be left with an essentially deist conception of God on which, even if God is the Creator of things, they might carry on without him once created. And this cannot be right.

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thing could not be God. For having the illusion that the world is changing involves having first this experience of the world, then that one, then another, and this *itself* involves change. Hence, whatever has such experiences is not immutable. Since these experiences are different experiences, anything that has them has parts and is therefore not simple. Since whatever changes or has parts is contingent, nothing having these illusions could be necessary. Since having an illusion entails error and ignorance, nothing which has these illusions could be omniscient. And so on.

[79] Note that it would not help the occasionalist to appeal instead to the Augustinian proof of God's existence, which, unlike the other proofs defended in this book, does not begin with the existence of concrete objects and processes, but rather with the reality of universals, necessary truths, etc. The reason is that precisely because the Augustinian proof does not begin with considerations about causality, it does not get us to God qua the source of all causal power, and thus does not give the occasionalist the materials he needs in order to develop his distinctive account of divine causality. It is only the *other* proofs which give the occasionalist those materials, and yet, as just noted, those are precisely the proofs whose starting points occasionalism would end up undermining.

For one thing, and as we have seen, nothing other than God possibly *could* exist even for an instant without God's conserving action. This follows from a thing's being composite rather than simple, from its being a mixture of actuality and potentiality, and from its having an essence distinct from its existence. For another thing, the resulting position would, again, be incoherent. For it was the idea that things cannot exist on their own even for an instant that led us to the idea of God as first cause in the first place. To say that these things might exist without God after all would once again be like climbing a ladder and then blasting it out from under one.

So, the correct view has to be the middle-ground concurrentist position according to which *secondary causes are real.* That is to say, things other than God have real causal power even if they have it only in a secondary or derivative way insofar as they derive that power from God as first or underived cause. Occasionalism denies that secondary causes are real insofar as it says that only the first cause really causes anything. Mere conservationism denies that secondary causes are real insofar as it says that causes other than God have their causal power independently of God and thus do not have it in merely a derivative or secondary way.

Secondary causes are true *causes* insofar as they make a real contribution to the effect. The effect would not be of precisely the character it is if some other secondary cause were involved instead. Secondary causes are *secondary* insofar as they would be inert without divine assistance. God must cooperate or *concur* with everything they do if they are to do anything (hence the label "concurrentism"). To borrow an example from Alfred Freddoso, if you draw a square on a chalkboard with blue chalk, both you as primary cause and the chalk as secondary cause are joint causes of the effect—you of there being any square there at all, the chalk of the square's being blue.[80] The chalk makes a real contribution to the effect insofar as the effect would have been very different if the chalk had been red, or if the writing instrument had been a pen or pencil instead of chalk, and so forth. But no effect at all would have been produced had you not pressed the chalk against the board. Or consider the moon, which gives light only insofar as it receives it from the sun. The moon makes

[80] Freddoso, "Pitfalls and Prospects".

a real contribution to the effect insofar as its appearance in the night sky would be very different if the soil on its surface had a different color or it if were in other respects made of a different sort of material. But it would give no light at all if there were no sunlight for it to reflect. God's concurrence with the secondary causes he conserves in existence is analogous to your relationship to the chalk or the sun's relationship to the moon.

Now, among the secondary causes with which God must concur if they are to have any efficacy are human beings. Does this entail that we lack free will? No. To borrow an example from David Oderberg, consider a father teaching his young son how to write letters by guiding the child's hand.[81] The child, who does not yet know how to write an *A* (for example), will not be able to do so unless he allows his father to guide his hand in the right direction. The child could resist his father's guidance and move his hand in the wrong direction; or he could submit to that guidance and allow it to be moved in the right direction. There is nothing in the father's guidance per se that rules out either possibility. Hence, the child's free choice of whether to resist or submit makes a real contribution to the effect. All the same, the effect—the letter *A* appearing on the page—will not occur without the father's guidance. God's concurrence with our free actions is analogous to that.

Miracles

Determining whether any purported miracle (such as the Resurrection of Jesus of Nazareth) has actually occurred is beyond the scope of a book on natural theology. But what it would be for a miracle to occur, and whether such a thing could occur, are questions to which the arguments of this book are highly relevant, so it is appropriate to address them here.

Since the time of David Hume, a "miracle" has often been characterized as a violation of a law of nature. The idea, roughly, is that when there is a regular or "law-like" correlation between, say, causes of kind A and effects of kind B, a failure of some particular instance of A to be followed by B would constitute a miracle.

[81] David S. Oderberg, "Divine Premotion", *International Journal for Philosophy of Religion* 79 (2016): 207–22.

This conception underlies skeptical arguments to the effect that the notion of a miracle is incoherent, insofar as evidence that some purported violation of a law occurred would really just be evidence that the purported law in question wasn't really a *law* in the first place, so that there was no true violation and thus no miracle.

But from the point of view of Aristotelian-Thomistic metaphysics (which is the metaphysical position informing this book), this characterization of miracles is problematic. On the standard Aristotelian account, a law of nature is a description of the tendencies or dispositions a thing will exhibit given its nature or essence. For example, if it is a law of nature that water freezes at 32 degrees Fahrenheit, then what this involves is just water's having, by virtue of its essence or nature, a tendency or disposition to freeze at that temperature. As it happens, this example is oversimplified, since liquid water can in unusual circumstances exist at cooler temperatures. But that only reinforces the point that when we talk about laws we are really talking about tendencies or dispositions, and a tendency or disposition can be blocked, or manifest only when certain conditions obtain. As Anselm Ramelow writes:

> Laws of nature ... are really about the dispositional properties of things, based on the kinds of things they are: things of kind A have a disposition to manifest quality F in conditions C, in virtue of being of nature N. For Aquinas, laws of nature are not strictly *universal* generalizations, but descriptive of what happens *normally*, i.e. according to the nature of things; exceptions are quite compatible with such laws.[82]

So, one problem with characterizations of miracles as violations of laws of nature is that they often reflect too crude an understanding of how laws work. If a law describes a thing's natural dispositions, and a disposition can really be present yet still fail to manifest—either if the manifestation is blocked, or if the triggering conditions are not present—then such a failure to manifest will not *as such* constitute a violation of the law. Hence, it will not as such count either as evidence of a miracle or, for that matter, as evidence that the purported law was not after all a true law.

[82] Anselm Ramelow, "The God of Miracles", in *God, Reason and Reality*, ed. Anselm Ramelow (Munich: Philosophia Verlag, 2014), p. 314 (emphasis in the original).

There is another problem with characterizing miracles as violations of laws of nature. As David Oderberg sums up the Aristotelian-Thomistic view of laws:

> *The laws of nature are the laws of natures.* For natures just are abstract essences in concrete operation. Nature is the collection of all the natures of things. So to say the laws are *of nature* is to say that they are *of the natures* of things.[83]

An implication of this, emphasized by Oderberg, is that the laws of nature are not, as Hume and his followers suppose, contingent, at least not without qualification. The Humean view is that something could be just the thing it is—water, or fire, or an acorn, or a dog—while governed by different laws and thus entering into entirely different causal relations. Hence, water might turn into chocolate mousse at 32 degrees Fahrenheit, fire might cause water to freeze rather than boil, an acorn might grow into a dog, a dog might be able to fly by wagging its tail, and so forth, if only the laws of nature were different. But from an Aristotelian point of view this makes no sense. Since laws of nature are the laws of the natures of things, if the laws were different, the natures would be different and thus the things would be different. Anything that reliably turned to chocolate mousse at 32 degrees Fahrenheit just wouldn't *be* water in the first place, anything that reliably grew into a dog just wouldn't *be* an acorn, and so on. Since laws of nature reflect the natures or essences of things, they are metaphysically necessary. To be sure, there could have been a world without water, fire, acorns, or dogs in it in the first place, but which did have entities which in certain superficial ways resembled these things. In *that* sense the laws of nature that actually obtain need not have obtained, and are therefore to that extent contingent. But there couldn't have been a world which really had water, fire, acorns, and dogs in it but where these things did not naturally behave in the ways they in fact do behave.

Now if laws of nature are metaphysically necessary (*given* that the contingent things whose natures they reflect in fact exist), then violations are impossible. Of course, the manifestation of a disposition

[83] Oderberg, *Real Essentialism*, p. 144 (emphasis in the original).

might still either be blocked or lack the requisite triggers, but if the triggers are present and no blocks are present, the manifestation will follow.

What, then, is a miracle if not a violation of the laws of nature, and how could miracles occur if laws are metaphysically necessary? Ramelow sums up the Thomistic answer as follows:

> What defines a miracle is not merely that it is an exception to what is natural (which would be true for defects as well), but that it elevates the nature of a thing to a power that cannot be accounted for by this nature. Unlike said defects, miracles are exceptions that are *super*-natural rather than *sub*-natural. As such, then, miracles are not violations of the laws of nature. Even though they would have to be called "physically impossible," yet they are not *contrary* to nature; rather, they are *beyond* nature ... in the sense of elevating it to a higher power.[84]

As Ramelow goes on to note, qua *super*natural—that is to say, having as their cause something which is outside the natural order altogether—miracles can only have a divine cause and must not be confused with the extraordinary but still merely preternatural effects that an angel (for example) might produce. Such finite spirits would still be part of the natural order broadly construed. They too would be created things each of which has its own nature or essence and each of which can remain in existence and operate only insofar as God conserves it in being and concurs with its actions.[85]

Properly understood, then, miracles are in no way comparable to magic, nor to a kind of advanced technology. For God is not merely an especially powerful cause alongside other natural and preternatural causes. Rather, he is altogether outside the order of natural and preternatural causes, as the metaphysical precondition of there being

[84] Ramelow, "God of Miracles", pp. 314–15 (emphasis in the original); see pp. 348–49. See also C. S. Lewis' remark in *Miracles* (New York: Touchstone/Simon and Schuster, 1996), that it is "inaccurate to define a miracle as something that breaks the laws of Nature" (p. 80). Rather, for Lewis it involves God *introducing* something into nature: "If God creates a miraculous spermatozoon in the body of a virgin, it does not proceed to break any laws. The laws at once take it over. Nature is ready. Pregnancy follows, according to all the normal laws, and nine months later a child is born" (p. 81).

[85] Ramelow, "God of Miracles", pp. 316–17.

any causal power at all. That is the manner in which he is the First Cause—"first" in the sense of primary or fundamental, that from which all other, merely secondary causes derive their causal power.

Hence, it would be a sheer mistake to think that the difference between ordinary events and miracles is that whereas the former happen on their own, God causes the latter. The world is not like an airplane on autopilot, with God interfering from time to time to perform a course correction. God is the ultimate cause of *all* things, the natural and preternatural as much as the miraculous. Indeed, as the arguments of this book show, it is the *ordinary, natural* course of things, and not miracles, which is the most direct evidence of God's existence and action as First Cause. As Brian Davies writes:

> Some people would say that God can intervene so as to bring it about that changes occur in the world. On the classical theist's account, however, such changes cannot be literally thought of as divine interventions since they and what preceded them are equally the creative work of God.[86]

Davies goes on to quote Herbert McCabe, who says:

> It is clear that God cannot *interfere* in the universe, not because he has not the power but because, so to speak, he has too much. To interfere you have to be an alternative to, or alongside, what you are interfering with. If God is the cause of everything, there is nothing that he is alongside.[87]

Davies adds: "You cannot intervene in what you are doing yourself. And, say classical theists, God cannot literally intervene in his own created order."[88]

Like the term "violation", the term "intervention" wrongly suggests that a miracle is a kind of *violent* motion, as if God has to force things to go in a certain direction. That would be a fitting characterization if the world were a machine and God a machinist who

[86] Davies, *Introduction to the Philosophy of Religion*, p. 4.

[87] Herbert McCabe, "Creation", in *Philosophy of Religion: A Guide and Anthology*, ed. Brian Davies (Oxford: Oxford University Press, 2000), p. 199 (emphasis in the original).

[88] Davies, *Introduction to the Philosophy of Religion*, p. 4.

occasionally steps in to fine-tune it, but it is highly misleading given the conception of God and his relationship to the world argued for in this book. A better analogy might be to think of the world as music and God as the musician who is playing the music. Divine conservation of the ordinary, natural course of things is comparable to the musician's playing the music according to the written score as he has it before his mind. God's causing a miracle is comparable to the musician temporarily departing from the score, as in the sort of improvisation characteristic of jazz. The musician hardly has to *force* the music to go in some way it wasn't already going; *every* note, including the written ones that precede and follow the improvised ones, is produced by him. Still, the improvisation definitely adds to the score something that wasn't already there, just as, in Ramelow's words, a miracle goes "*beyond* nature" and "elevat[es] it to a higher power".

Or we might think of the world as a movie and God as the director. The natural order of things, considered just by itself, is like the movie in the version originally released to theaters. The natural order of things together with miracles is like the "director's cut" of the movie later released on DVD. Both versions are the work of the director, just like the natural order and miracles are both the work of God. But the "director's cut" includes new material, perhaps even subplots and other scenes that dramatically alter the film, just as miracles dramatically alter the natural order of things. Or, to appeal to an analogy used previously, the world might be compared to a story and God to the author of the story. The ordinary, natural course of things is like the story as it originally appeared, and miracles are like additions to the story made when it is republished in a second edition.

Now, in all of these examples—a musical score as originally written, a movie in its original theatrical release version, a story as originally published—we have artistic productions that are complete and perfect as far as they go. Just as adding an improvisation, a new scene, or a new chapter is not necessarily a matter of correcting a defect in a piece of music, a film, or a novel, neither is a miracle essentially a matter of correcting some defect in nature. It is rather a matter of taking something that is already good and complete as far as it goes and raising it to an even higher level, just as a jazz improvisation, a director's cut, or a second edition of a book might take something that was already good and complete and make it even better. Again,

this dovetails with Ramelow's description of a miracle as something that is "not *contrary* to nature [but] rather ... *beyond* nature ... in the sense of elevating it to a higher power".[89]

However, Ramelow's characterization of what a miracle amounts to should, I think, be supplemented. When speaking of a miracle as something which is "not *contrary* to ... [but] *beyond*" nature and "elevat[es]" it, Ramelow gives the impression that a miracle is always a matter of God's *adding something to* nature, and never a matter of *taking something away*. But that need not be the case. A miracle could involve a subtraction rather than an addition. Hence, while a resurrection from the dead would certainly add something to the natural course of things, as do miracles like Jesus' multiplication of the loaves and fishes, a miracle like the one involving Daniel's friends in the fiery furnace seems to involve a mere subtraction from the natural order. It is what does *not* happen to Shadrach, Meshach, and Abednego that is significant. They are not burnt, as they would have been had nature taken its course.[90]

Now, how can this be if, as both Ramelow and I emphasize, a miracle is not a violation of a law of nature—and indeed if, as I have said, such violations are metaphysically impossible? Doesn't the failure of the fire to burn Daniel's friends constitute just such a violation? It does not. As Oderberg argues, a miracle is properly construed not as a "breach" or violation of a law of nature, but rather as a "suspension" of such a law.[91] He draws an analogy with human positive law. God's bringing about a breach or violation of a law of nature would be comparable to a government leaving a law on the books but refraining from investigating or punishing violations of that law. A miracle is not like that. It is rather like a government's temporarily revoking a law, taking it off the books so that actions that would otherwise count as violations no longer so count.

[89] See Lewis, *Miracles*, p. 84: "If Nature brings forth miracles then doubtless it is as 'natural' for her to do so when impregnated by the masculine force beyond her as it is for a woman to bear children to a man. In calling them miracles we do not mean that they are contradictions or outrages; we mean that, left to her own resources, she could never produce them."

[90] Of course, any claim to the effect that these particular miracles actually occurred would require defense, and again, such a defense is beyond the scope of this book. But that is irrelevant to the present point, because they are being used here merely as illustrations of the different sorts of miracle which *could* occur if God willed it.

[91] Oderberg, *Real Essentialism*, pp. 148–49.

To put the point in terms of the analogies proposed earlier, we might say that while a miracle like the Resurrection of Jesus is like a musician adding something to the written score in an improvisation, a miracle like Daniel's friends' failure to be burned by the fire is like the musician refraining from playing certain notes that were originally in the score. Or we might say it is like a director leaving out a key scene from the theatrical release from a movie, or a novelist leaving out a key passage that was originally intended for the book. Keep in mind that as we have seen, a thing can operate at any instant only insofar as God conserves it in being at that instant and also concurs with its causal activity at that instant, imparting to it the causal power by which it acts according to its nature. The sort of miracle that involves subtracting something from the natural order rather than adding something to it involves, not God *acting* in a special way, but rather his *refraining from acting* as a conserving and concurring cause. In the case at hand, it is not that God conserves fire in being together with its preconditions (e.g., oxygen) and concurs with their causal activity, yet somehow causes this collection of factors to act in a way that is contrary to their natures. That would be a violation of a law of nature. Rather, he *refrains from* conserving in being and in concurring in the activity of some or all of the factors, so that the normal effect does not follow. That is a *suspension* rather than a violation of the natural order. It is not a case of God violently interfering with what he has brought about, but rather a case of his not bringing certain things about in the first place.

Now, since God *could* add to or subtract from the ordinary, natural order of things in the ways described, miracles are certainly possible. But why *would* he ever do so? One answer is that he would do so if he willed to reveal to us something we could not come to know through natural means. Suppose, for example, that he sent a prophet to teach some doctrine the truth of which we could not possibly arrive at via philosophical argument or scientific investigation. How would we know that such a prophet really was sent by God and that his purported revelation is not merely something he made up? We would know it if the prophet performed miracles, since only God himself could cause miracles to occur. Miracles would function as a divine "seal of approval" of the prophet's teaching. Hence, if we could establish that such miracles really did occur, then we would have rational grounds for accepting the teaching of the prophet as divinely revealed.

Miracles, then, are the bridge between natural theology and revealed theology. They would provide a rational basis for *faith*—which, contrary to a very common misconception, is *not* a matter of believing something without evidence or even in the face of contrary evidence. Rather, faith, as understood by theologians such as Aquinas is a matter of believing something because it has been revealed by God. But that it really *has* in fact been revealed by God is something for which *evidence* must be given, and the evidence has to involve a miracle in the sense described above, for nothing less than that could justify the claim that the purportedly revealed doctrine really has a divine source. Faith is in that way by no means contrary to reason, but rather is grounded in reason.

Now, determining whether any particular alleged miracle really has occurred is, again, beyond the scope of a book on natural theology. In general, natural theology does not *by itself* establish the truth of any particular religion, revealed or otherwise. However, the arguments of natural theology do have a great deal to tell us about how to evaluate the claims of the various religions. If a religion says things about the nature of God or his relationship to the world which are incompatible with the results of natural theology, then we have positive reason to think that that religion is false. For example, if a religion denies that there is one ultimate divine cause of things, or identifies God with the world, or claims that God is impersonal, or that he is a material thing, or that he is finite in power or knowledge, then we know that that religion is false, since it can be established via philosophical argument that God is one, that he is distinct from the world, that he has intellect and will, and that he is immaterial, omnipotent, and omniscient. Furthermore, if a religion claims to be divinely revealed, but cannot support that claim to revelation with a miracle in the strict sense described above, then we know that we have no reason to take that religion's claims seriously.

Appendix: Is God male?

Being immaterial and incorporeal, God is not an animal, and thus he is not a rational animal or human being. And since he is not a human being, he is not literally either a man or a woman. He is

sexless. Nevertheless, the traditional practice has been to characterize God in masculine terms, and I have followed that practice in this book. Some contemporary writers object to such usage, dismissing it as "sexist" and lacking in rational justification. Hence they often adopt the "politically correct" and clumsy practice of referring to God as "he/she/it". But in fact there are good philosophical reasons for the traditional usage.

Consider first of all that as we have seen, there is in God intellect and will, and these attributes are definitive of personality. Accordingly, God cannot appropriately be characterized in impersonal terms, as an "it". But then, why "he" and "him", rather than "she" and "her"?

The reason is that God's relationship to the world is much more like a paternal relationship than it is like a maternal relationship. Biologically speaking, a father's role in procreation is active insofar as he impregnates, and a mother's role is passive insofar as she is impregnated. There is no change to a father's physiology as a consequence of impregnation, whereas there is a radical change in the mother's physiology.[92] The mother becomes more physically dependent on the father, who must provide for his mate and for their unborn child—even if, unfortunately, some fathers do not do their duty in this regard. As that sad fact indicates, the father is in no way physically dependent on his mate or their child, which is why he can (even if he shouldn't) leave the scene. There is also a literal physiological connection between the child and its mother that doesn't exist between the child and its father, who is literally more distant during the whole process of gestation.

Now, there are obvious analogies here to God's relationship to the world. God is active insofar as he creates the world, whereas the world is passive insofar as it is created by God. As pure actuality, God is entirely unchangeable, whereas the world is a mixture of actuality and potentiality that is continuously changing. The world depends entirely on God at every instant, whereas God in no way depends on the world. The world could not exist without God even though he could exist without it. God is also utterly distinct from the world rather than being identical to it (as in pantheism) or even continuous with it (as in panentheism).

[92] See the passage from p. 84 of Lewis' *Miracles* quoted earlier in n. 89, p. 244.

So, given the key elements of classical theism, which is the position defended in this book, the most natural and least misleading way of characterizing God is in paternal and thus masculine terms. Maternal imagery would suggest that God is changeable or continuous with the world, which would in turn suggest a panentheist conception of God, or a pantheist conception, or a conception which in some other way is at odds with God's immutability, immateriality, eternity, and pure actuality.

7

Common Objections to Natural Theology

In the course of this book I have already responded in some detail to most of the objections that have been raised against arguments of the sorts I have been defending. But a separate chapter on the subject is in order. For one thing, there are several further objections which need to be addressed. For another, certain objections, though on close inspection they turn out to be extremely feeble, are so common and reflect such pervasive misunderstandings of the arguments that it is worthwhile revisiting them. This is especially true in light of the renewed publicity "New Atheist" writers have recently given these bad objections.[1] There will, then, be a little bit of overlap between some of what I have to say in this chapter and what I have said in earlier chapters. But I will try to avoid too much repetition, and will instead address from a different angle and in greater depth those objections which have already been discussed.

"If everything has a cause, then what caused God?"

This may be the single most common objection against arguments for a divine cause of the world. It is routinely raised by amateurs and by professional philosophers alike. And it is a staple of New Atheist

[1] See Sam Harris, *The End of Faith* (New York: Norton, 2004); Sam Harris, *Letter to a Christian Nation* (New York: Alfred A. Knopf, 2006); Richard Dawkins, *The God Delusion* (New York: Houghton Mifflin, 2006); Daniel C. Dennett, *Breaking the Spell: Religion as a Natural Phenomenon* (New York: Viking, 2006); Christopher Hitchens, *God Is Not Great* (New York: Twelve, 2007); Victor J. Stenger, *God: The Failed Hypothesis* (Amherst, N.Y.: Prometheus Books, 2008); Stephen Hawking and Leonard Mlodinow, *The Grand Design* (New York: Bantam Books, 2010); Victor J. Stenger, *God and the Folly of Faith* (Amherst, N.Y.: Prometheus Books, 2012); Lawrence M. Krauss, *A Universe from Nothing* (New York: Free Press, 2012); Alex Rosenberg, *The Atheist's Guide to Reality* (New York: W. W. Norton, 2011); and A. C. Grayling, *The God Argument* (New York: Bloomsbury, 2013).

literature.[2] We have already seen why the objection has absolutely no force against any of the arguments defended in this book. None of the arguments rests in the first place on the premise that "everything has a cause." For that reason alone, any suggestion that the proponent of such arguments is contradicting himself or making an arbitrary exception to his own rule would simply be directed at a straw man.

But rhetorically to ask "What caused God?" is a bad objection even apart from the fact that the arguments do not rest on the premise in question. For it is not as if the arguments give no reason why God does not need a cause even if other things do. On the contrary, part of the point of the arguments is to establish that there must be something that not only lacks a cause but could not even in principle have had one, precisely because it lacks the very feature that makes other things in need of a cause.

Hence, the Aristotelian proof holds that other things require a cause because they are mixtures of actuality and potentiality, and any potential, precisely because it is merely potential, cannot actualize itself. By contrast, what is purely actual, precisely because it lacks any potentiality, not only need not have a cause but could not have had one. The Neo-Platonic proof holds that composite things require a cause because there must be some principle outside them that accounts for the composition of their parts. But what is utterly simple or noncomposite has no parts to be put together in the first place. Hence, it not only need not have been caused but could not have been caused. The Thomistic proof makes the same point insofar as it emphasizes that for a thing to be kept in existence is for its essence to be conjoined with existence, which requires a cause, whereas something whose essence *just is* existence need not and could not have existence conjoined to its essence and thus need not and could not have a cause. The rationalist proof entails that contingent things require a cause precisely because they are contingent and could have been otherwise, whereas what is necessary, and

[2] See Dawkins, *God Delusion*, p. 77; Dennett, *Breaking the Spell*, p. 242; Harris, *Letter to a Christian Nation*, pp. 72–73; Hawking and Mlodinow, *Grand Design*, p. 172; Hitchens, *God Is Not Great*, p. 71; Krauss, *Universe from Nothing*, p. xii; Stenger, *God and the Folly of Faith*, pp. 215, 323–24.

thus could not have been otherwise, neither need have nor could have had a cause.[3]

So, to ask "What caused God?", far from being the devastating retort New Atheist writers suppose it to be, is in fact painfully inept. When interpreted in light of what the various arguments actually *mean* by "cause" and "God", it really amounts to asking "What caused the thing that cannot in principle have had a cause?" In particular, it amounts to asking "What actualized the potentials in that thing which is pure actuality and thus never had any potentials of any sort needing to be actualized in the first place?"; or "What principle accounts for the composition of the parts in that which has no parts but is absolutely simple or noncomposite?"; or "What unites the distinct essence and existence in that which has no essence distinct from its existence?"; or "What imparted a sufficient reason for existence to that thing which has its sufficient reason for existence within itself and did not derive it from something else?" And none of these questions makes any sense.

Of course, the atheist might say that he isn't convinced that these arguments succeed in showing that there really is something that could not in principle have had a cause—something that is purely actual, or absolutely simple, or in which essence and existence are identical, or which has a sufficient reason for its existence within itself. He might even try to argue that there is some sort of hidden incoherence in these notions. But *merely* to ask "What caused God?"—as if any defender of such arguments has overlooked the most obvious of objections—simply misses the whole point. A serious critic has to grapple with the details of the arguments. He cannot short-circuit them with a single smug question.

Since I have developed and defended these points at length in earlier chapters, I won't belabor them here, but direct the interested reader to those earlier discussions. However, it is important to emphasize that the objection under consideration *also* has no force whatsoever against *any of the other* versions of the First Cause argument (also known as the "cosmological argument"), which have been defended

[3] I do not mention the Augustinian proof here because, unlike the others, it is not a *causal* argnment for the existence of God. Hence, the objection currently under consideration is not even prima facie relevant to it.

by philosophers over the centuries—mostly for the same reason it has no force against the arguments defended in this book. Why, then, is this lame objection so commonly raised, and presented as if it were devastating? That is a question worth examining in some depth.

Part of the answer is that criticism of First Cause arguments is almost always directed at a nearly omnipresent straw man—an argument that is widely regarded as representing the basic thrust of the cosmological argument, but which in fact bears no interesting relationship to what any of the defenders of such arguments have ever actually said. For example, New Atheist Daniel Dennett begins his brief discussion of the cosmological argument as follows:

> The Cosmological Argument ... in its simplest form states that since everything must have a cause the universe must have a cause—namely, God.[4]

The assumption that this is the basic thrust of the cosmological argument is, as I say, by no means confined to New Atheist polemical literature. It can be found in purportedly neutral works of pop philosophy. Hence, Nigel Warburton maintains that

> the First Cause Argument states that absolutely everything has been caused by something else prior to it: nothing has just sprung into existence without a cause. Because we know that the universe exists, we can safely assume that a whole series of causes and effects led to its being as it is. If we follow this series back we will find an original cause, the very first cause.[5]

The assumption is widespread also in the work of more rigorous academic philosophers who do not specialize in the philosophy of religion. For example, Graham Priest writes:

> It's a natural assumption that nothing happens without an explanation: people don't get ill for no reason; cars don't break down without a fault. Everything, then, has a cause. But what could the cause of everything be? Obviously, it can't be anything physical, like a person; or even something like the Big Bang of cosmology. Such things must

[4] Dennett, *Breaking the Spell*, p. 242.

[5] Nigel Warburton, *Philosophy: The Basics*, 4th ed. (London: Routledge, 2004), p. 17.

themselves have causes. So it must be something metaphysical. God is the obvious candidate.

This is one version of an argument for the existence of God, often called the Cosmological Argument.[6]

There is even at least one case where the idea appears in the work of someone who *does* specialize in the philosophy of religion. Robin Le Poidevin summarizes what he calls "the basic cosmological argument", of which at least some other versions are "modifications", this way:

1. Anything that exists has a cause of its existence.
2. Nothing can be the cause of its own existence.
3. The universe exists.

Therefore: The universe has a cause of its existence which lies outside the universe.[7]

Examples of similar summaries of the argument could easily be multiplied.[8] The standard next move of those presenting these summaries is, of course, to suggest that the argument founders on the obvious retort: If everything has a cause, then what caused God? If the response is that nothing caused God, then, the critic maintains, we might as well say that nothing caused the universe. The critics also sometimes suggest that the argument gratuitously assumes that the universe had a beginning, whereas if we suppose instead that it did not, the pressure to look for a first cause of any sort disappears. More complex versions of the cosmological argument are then sometimes treated as if they were desperate and doomed attempts to patch up the glaring holes in this "basic cosmological argument".

[6] Graham Priest, *Logic: A Very Short Introduction* (Oxford: Oxford University Press, 2000), pp. 21–22.

[7] Robin Le Poidevin, *Arguing for Atheism: An Introduction to the Philosophy of Religion* (London: Routledge, 1996), p. 4.

[8] Further examples taken just from books lying around my study would be Michael Martin, *Atheism: A Philosophical Justification* (Philadelphia: Temple University Press, 1990), p. 96; Bertrand Russell, *Why I Am Not a Christian* (New York: Simon and Schuster, 1957), p. 6; Jenny Teichman and Katherine C. Evans, *Philosophy: A Beginner's Guide*, 2nd ed. (Blackwell, 1995), p. 22; and Rebecca Newberger Goldstein, *36 Arguments for the Existence of God: A Work of Fiction* (New York: Pantheon, 2010), p. 348.

The problem is this: *Not one of the many prominent defenders of the cosmological argument in the history of Western philosophy ever actually put forward anything like this so-called "basic cosmological argument"*. In particular—and to hammer the point home—you will not find such an argument in Plato, Aristotle, Plotinus, Al-Ghazali, Avicenna, Averroes, Maimonides, Anselm, Bonaventure, Aquinas, Scotus, Suarez, Leibniz, Clarke, Locke, Berkeley, Reginald Garrigou-Lagrange, Jacques Maritain, Etienne Gilson, Mortimer Adler, Bruce Reichenbach, Richard Taylor, Richard Swinburne, Robert Koons, Richard Gale, Alexander Pruss, John Haldane, Christopher Martin, David Oderberg, William Lane Craig, or, as far as I know, in the work of any other philosopher who has defended the cosmological argument. Indeed, Le Poidevin (who, as a philosopher of religion, is better informed about the subject than the other critics quoted above) admits as much, writing that "no-one has defended a cosmological argument of precisely this form."[9] He just thinks it "provides a useful stepping-stone to the other, more sophisticated, versions" of the argument.

This is, when you think about it, extremely odd. Suppose "Intelligent Design" theorists routinely characterized "the basic Darwinian thesis" as the claim that at some point in the distant past a monkey gave birth to a human baby. Suppose they never cited any sources for this claim (which, of course, they couldn't do, since no Darwinian has ever said such a thing) and even admitted that no one has ever defended it. But suppose that they nevertheless suggested that it "provides a useful stepping-stone to the other, more sophisticated, versions" of Darwinism. Darwinians would rightly be outraged, objecting that such a procedure gets the whole discussion off on the wrong foot, and in particular conveys the false impression that anything Darwinians have to say about human origins is really just a desperate exercise in patching up a manifestly absurd position. Yet it is precisely that sort of false impression that is conveyed by the insinuation that the thinkers cited above, however complex their arguments, are all ultimately in the business of trying to salvage or "modify" something that at bottom amounts to what Le Poidevin characterizes as "the basic cosmological argument".

Nor could it honestly be suggested by anyone familiar with the work of defenders of the argument that they are at least *implicitly*

[9] Le Poidevin, *Arguing for Atheism*, p. 4.

committed to the so-called "basic cosmological argument". For one thing, none of the thinkers in question actually appeals to the premise that "everything has a cause." Indeed, some of them explicitly or implicitly *deny* that everything has a cause. For another thing, none of the defenders of the argument cited above *assumes* that the universe had a beginning, and only one version of the argument (the *kalām* cosmological argument) is even concerned to try to *show* that it did. Indeed, most versions do not even require as a premise any claim about the universe *as a whole* in the first place.

But if defenders of the cosmological argument not only do not assume, but in fact often deny, that everything has a cause; if most of them not only do not assume that the universe had a beginning but are not even interested in the question of whether it did; and if most of them are not even arguing in the first place from any premise about the universe considered as a whole; then it is, to say the least, highly misleading to begin a discussion of the cosmological argument the way Dennett, Warburton, Priest, Le Poidevin, and so many others do.

In any event, if the prevalence of the "If everything has a cause, then what caused God?" objection is explained by the prevalence of the straw man First Cause argument against which it is directed, that just raises the further question: *Why do the critics keep attacking this straw man?* Part of the answer is surely that the critics rely too much on what *other critics* say, rather than seriously engaging with the writings of defenders of the cosmological argument themselves. In particular, Dennett and other New Atheist writers, pop philosophy writers like Warburton, and academic philosophers like Priest who do not specialize in the philosophy of religion, seem to have "learned" about the cosmological argument by reading other critics who falsely claim that the argument says that "everything has a cause, so the universe has a cause, etc." Such writers either don't bother reading what Aquinas, Leibniz, and others actually wrote, or read *into* what Aquinas, Leibniz, and others wrote the "Everything has a cause, so the universe has a cause, etc." argument that isn't actually there. As generation after generation of writers has repeated this intellectually sloppy procedure, it has become the conventional wisdom that what First Cause arguments say is that "everything has a cause, so the universe has a cause, etc." The straw man is by now so common that even a specialist in philosophy of religion like Le

Poidevin, who knows better, feels justified in treating the straw man as if it were a legitimate starting point for a treatment of the cosmological argument.

But that raises yet another question: How did this straw man ever enter the literature in the first place? A plausible answer was proposed by the Thomist philosopher W. Norris Clarke in his 1970 article "A Curious Blind Spot in the Anglo-American Tradition of Antitheistic Argument".[10] Clarke provides several examples of philosophy textbooks of the mid-twentieth century which present variations of the caricature of First Cause arguments that we've been discussing, including John Hospers' widely used *An Introduction to Philosophical Analysis*. As Clarke indicates, Bertrand Russell's famous 1957 book *Why I Am Not a Christian* (the title of which derives from a 1927 lecture of Russell's that is printed in the book) may be the source from which many subsequent writers learned this caricature and the stock reply to it.

Clarke also notes that Russell in turn seems to have gotten the idea from John Stuart Mill, who in turn got it from his father, James Mill. Clarke suggests that David Hume, who in the *Dialogues Concerning Natural Religion* attacks something like the stock straw man First Cause argument, may be the first well-known writer to do so. Clarke writes:

> Let it first be agreed without qualification that if one does admit the principle "Every being has a cause", then the refutation is inescapable and devastating. But the very ease of this refutation, if nothing else, should have aroused some suspicions in the minds of its users, one would have thought, as to whether their supposed opponents were actually using this principle. *And it is in itself a highly suspicious fact that no one among the many in this Hume-Russell tradition whom I have read ever quotes any specific theistic philosopher who does make use of it.* So constant is this pattern, in fact, that I am willing to wager that this family trait is found also in those I have not yet run across.[11]

[10] W. Norris Clarke, *Monist* 54 (1970): 181–200, reprinted in W. Norris Clarke, *The Creative Retrieval of St. Thomas Aquinas: Essays in Thomistic Philosophy, New and Old* (New York: Fordham University Press, 2009), pp. 48–65.

[11] Clarke, *Creative Retrieval of St. Thomas Aquinas*, p. 55 (emphasis added).

As the examples from Dennett, Warburton, Priest, Le Poidevin, and others indicate, the pattern in question certainly has continued in the more than forty years since Clarke wrote. Critics regularly attack the straw man without citing anyone who has ever defended it—as did Hospers, who, after falsely accusing proponents of the First Cause argument of contradicting themselves by denying that God has a cause, smugly writes:

> Many people do not at once see this because they use the argument to get to God, and then, having arrived at where they want to go, they forget all about the argument.[12]

But who exactly *are* these "many people"? We are not told. It's tempting to conclude (paraphrasing Hospers) that the critics do not see that no one has ever really defended the straw man they attack because, having arrived at where they want to go—a way of dismissing Aristotle, Aquinas, Leibniz, and others tout court and thereby avoiding commitment to a divine First Cause—they forget all about what these writers *actually said*. Says Clarke:

> We can only conclude, then, that the Hume-Russell tradition of anti-theistic argument, on this point at least, somehow got off to a bad start by completely misunderstanding and misrepresenting the very argument it was trying to refute, and that it has continued to repeat itself ever since, talking only to itself, and without ever bothering to inquire whether the supposed other party to the debate was still there at all, or had ever been there. In a word, it has become a tradition in the worse sense of the word, truly in a rut and apparently unaware of it.[13]

But how did the Hume-Russell straw man tradition itself ever get started? As Clarke suggests, the answer seems to be that Hume was reacting to what he mistakenly took the early modern rationalist philosophers Descartes and Spinoza to be saying. In the third of his *Meditations on First Philosophy*, Descartes had put forward an eccentric and now little-known variation on the First Cause argument (a variation sometimes labeled by commentators the "preservation"

[12] Quoted in ibid., p. 52.
[13] Ibid., p. 59.

argument), which implies that there is a *sense* in which everything has a cause. Now, even Descartes' argument was *not* the straw man argument "Everything has a cause, so the universe has a cause." For one thing, he is not in his argument addressing the question of what is the cause of the universe. Rather, he begins by asking what it is that preserves *him* in existence from moment to moment. For another thing, the premise "everything has a cause" does not explicitly appear as a premise in his argument. Furthermore, the argument does not make an exception in the case of God, since it regards him as *self*-caused. In other words, Descartes was *implicitly* committed to the premise that everything has a cause, *including God*. So, even he is not subject to the objection "If everything has a cause, what caused God?", in part because he does not deny in the first place that God has a cause.

There is another reason this is not a good objection even to Descartes' argument. Clarke discusses the argument in some detail and shows that while Descartes' development and defense of it in his replies to critics of the *Meditations* is complicated and confusing, at the end of the day even he does not appear to be saying quite the sort of thing that the Hume-Russell straw man attributes to First Cause arguments. Rather, what Descartes is saying is something closer to a version of the principle of sufficient reason (PSR)—which I discussed and defended in chapter 5—according to which everything has an *explanation*. This is not the same thing as saying that everything has a *cause* (in the sense of "that which actualizes some potential"), for whereas all causes are explanations, not all explanations are causes. And as we saw in chapter 5, in the case of First Cause arguments that appeal to PSR, the Hume-Russell style objection cannot get off the ground, because these arguments do not and need not make any exception in the case of God. They hold that absolutely *everything* has an explanation. In the case of contingent things, the explanation lies outside the thing, and in the case of a necessary being, the explanation lies in the thing's own nature. Whatever one thinks of such arguments, there is no inconsistency in them, nor any ad hoc exception to a general principle.

Clarke suggests that Descartes blurred the distinction between a cause and a sufficient reason, and that Spinoza (who also thought of God as self-caused) did the same. What they really *meant* was something like "Everything has an explanation", where, again, they make no exception in the case of God. But since they use the language of

"cause", it *sounds* as if they are saying that "everything has a cause" *in the usual sense of* an efficient cause, which is distinct from its effect. And of course that is the sort of cause that God is traditionally said not to have, and which Descartes and Spinoza themselves would deny that he has (even if they think he does have a "cause" in the sense of a sufficient reason).

Clarke suggests that what Hume did was essentially to confuse these two senses of "cause", taking the rationalist claim that "everything has a *'cause'-in-the-sense-of-a-sufficient-reason*" to be identical to the claim that "everything has a *'cause'-in-the-sense-of-an-efficient-cause-distinct-from-itself.*" In fact no defender of the cosmological argument ever made the latter claim, but since Descartes and Spinoza made the former claim it *seemed* to Hume as if someone had made it. Hume then essentially made the further step of attributing this thesis to proponents of the cosmological argument in general. And then, since proponents of the cosmological argument in general do deny that God has a *"cause"-in-the-sense-of-an-efficient-cause-distinct-from-himself*, the claim that proponents of the argument were contradicting themselves seemed to have force. But as Clarke says:

> Thus the First Cause argument for the existence of God which the Hume-Russell tradition so devastatingly attacks is indeed an inviable metaphysical monster. But it is a monster of their own fabrication, not that of any reputable theistic philosopher. It is actually a kind of hybrid of both the traditional Scholastic and Cartesian rationalist traditions, which would make sense in neither and be repudiated by both.[14]

Clarke goes on to note that while Hume may have had some excuse for this error given the confusing nature of Descartes' terminology, "it is much harder to excuse his successors in this tradition, with all the resources of historical scholarship and linguistic analysis at their disposal, for perpetuating this confusion."[15] In my view, a willingness to assent to the following judgment of Clarke's provides a useful test of the competence and intellectual honesty of any atheist and any professional philosopher who deigns to comment on the subject of First Cause arguments:

[14] Ibid., p. 62.
[15] Ibid.

> We are here in the presence of a philosophical tradition that is truly in a self-repetitive rut, a tradition that has long since ceased to look outside of itself to check with reality and see whether the adversary it so triumphantly and effortlessly demolishes really exists at all.... It would seem to be high time that those who still follow this particular tradition of antitheistic argument should have the grace and humility to acknowledge that their argument is dead, and let us get on with more substantive problems with regard to philosophical argument for and against the existence of God.[16]

Unfortunately, the straw man in question seems immortal. More than eighty years before Norris Clarke published his paper, another Thomist, Richard Clarke, complained:

> The reader will observe that the Law of Causation does not state (as some modern writers most unfairly would have us believe) that *Everything that* exists *has a cause*. In this form it is quite untrue, since God is uncreated and uncaused. If it were worded thus, the objection, that we first formulate our universal law and then exclude from it Him on Whom all existence depends, would be perfectly valid. But this is entirely to misrepresent our position. It is one of the unworthy devices of the enemies of *a priori* philosophy.[17]

No doubt defenders of First Cause arguments will have to make the complaint again in another eighty years. Indeed, I am confident that even some atheists who read the present book will before long *still* find themselves trotting out the tired "If everything has a cause, then what caused God?" objection. Habits are hard to break, especially if breaking them entails having to admit that one's fellow atheists have *for centuries* been resting their main objection to First Cause arguments on an extremely elementary mistake.

"Maybe the universe itself (or the Big Bang, or the multiverse, or indeterministic quantum events, or the laws of physics) is the uncaused, self-explanatory, or necessary being."

This objection, which also goes back at least to Hume, is raised in various forms by New Atheist writers Dawkins, Dennett, Grayling,

[16] Ibid., pp. 62–63.

[17] Richard F. Clarke, *Logic* (New York: Benziger Brothers, 1889), pp. 78–79 (emphasis in the original).

Krauss, Rosenberg, and Stenger.[18] And like the first objection, it completely misses the point of each of the arguments defended in this book. As we have seen, whatever one thinks of those arguments, there is no arbitrariness or special pleading in their denying that God requires a cause while insisting that everything other than God does. The difference is in each case a principled one. And the principle in each case gives an answer to the question why the universe, for example, cannot be the terminus of explanation.

According to the Aristotelian proof, any actualization of a potential requires a cause, whereas what is pure actuality, and only what is pure actuality, does not. But the universe is a mixture of actuality and potentiality, and the Big Bang involved the actualization of a potential, as would each stage in the evolution of a multiverse and each quantum event (indeterminism being irrelevant). The laws of physics are also by themselves merely potential insofar as they could have been other than they are. Hence, none of these could be self-explanatory, necessary, or "uncaused" in the relevant sense of being the sort of thing that need not and could not have a cause.

Similarly, according to the Neo-Platonic proof, neither the universe nor a multiverse could be uncaused, necessary, or self-explanatory, precisely because they are composite. Quantum events and laws of physics also lack the metaphysical simplicity that the Neo-Platonic proof argues we must attribute to the first principle of all things. Their contingency is one indication of this, insofar as the fact that they could have been other than they are entails a distinction between essence and existence. The Thomistic proof would for the same reason deny that the universe, the Big Bang, quantum events, or laws of nature could be an uncaused cause; only something whose essence *just is* existence itself could be that. The defender of the rationalist proof would point out that all of these nondivine beings are contingent rather than necessary and thus could not provide an ultimate explanation.

Much more could be said. In particular, the metaphysical status of laws of nature is itself so vexed an issue that it is amazing that anyone could think a glib reference to the laws of physics might settle

[18] See Dawkins, *God Delusion*, p. 78; Dennett, *Breaking the Spell*, p. 242; Grayling, *God Argument*, pp. 96–97; Krauss, *Universe from Nothing*, p. xii; Rosenberg, *Atheist's Guide to Reality*, pp. 36–39; Stenger, *God and the Folly of Faith*, p. 215.

anything in this context. What is a law of nature? How does it have any efficacy? Is a law of nature merely a statement to the effect that such-and-such a regularity exists? In that case it isn't an *explanation* of anything but merely a *description* of the very thing that needs to be explained. Is a law of nature a kind of Platonic entity? In that case we need an account of how the world comes to participate in such a law, and why it participates in the specific laws it does rather than others. And in that case too, laws cannot be *ultimate* explanations. Is a law of nature a shorthand description of the way a natural substance will tend to behave given its nature or essence? In that case the existence of laws is parasitic on the existence of the substances themselves, and again cannot then be an ultimate explanation.[19]

Naturally the atheist might reject any of these views of laws of nature, along with the Aristotelian, Neo-Platonic, Thomistic, or rationalist accounts of why the universe cannot be an uncaused cause or self-explanatory or necessary being. The point, however, is that *merely* to suggest that the universe, Big Bang, and so forth might be the terminus of explanation is to not to give any *reason* for rejecting the arguments. It is simply to *ignore* the arguments, not to *answer* them.

It is also worth pointing out that even if this objection succeeded, it would not vindicate atheism. For if the universe really were a self-explanatory, uncaused, necessary being, then it would have distinctively *divine* attributes. The resulting view would be *pantheism*, not atheism. The objection would not show that God does not exist, but rather that God does exist and is identical with the world. Many Hindus would happily accept this, even if Jews, Christians, and Muslims could not. And of course, neither could atheists.

"It is false to suppose in the first place that everything has a cause or an explanation."

In putting forward this objection, Stenger attributes some events to "chance" rather than causation.[20] Dennett and Rosenberg suggest that quantum mechanics shows that events can occur without a

[19] For a useful account of recent debate over this issue, see Stephen Mumford, *Laws in Nature* (London: Routledge, 2004). For a defense of the Aristotelian view that laws of nature are summaries of the ways substances tend to operate given their natures, see David S. Oderberg, *Real Essentialism* (London: Routledge, 2007), pp. 143–51.

[20] Stenger, *God and the Folly of Faith*, p. 97.

cause.[21] Grayling reiterates Hume's point that "we can conceive of effects independently of causes."[22]

Leave aside the point that the arguments defended in this book do not actually rest on the premise that everything has a cause. None of the objections just cited has force even against the causal principles to which the arguments *are* committed. Take Stenger's objection, which is directed at a straw man. Naturally, no proponent of cosmological arguments denies that chance events occur. But there is simply nothing about chance that rules out causality. On the contrary, chance *presupposes* nonchance causal regularities. To take a stock example, when a farmer plowing a field comes across buried treasure, that is a chance event. But it occurs only because of the convergence of two nonchance lines of causality: the farmer's decision to plow in a certain direction that day, and someone else's decision to bury treasure at precisely that spot. Similarly, that following an earthquake, tumbling boulder A shattered boulder B, specifically, is a chance event. But it occurs only because of causal regularities like the ones involved in plate tectonics, gravitational attraction, the solidity of boulders, and so forth.

Quantum physics shows at most that some events do not have a *deterministic* cause or explanation, but there is nothing in either the principle of causality or PSR per se that requires that *sort* of cause or explanation, specifically. Furthermore, quantum events occur even in a nondeterministic way only *given* the laws of quantum mechanics, which are contingent and by themselves merely potential until a universe that follows them is actualized. So, it either misses the point or begs the question to appeal to quantum mechanics, since that is itself part of what cosmological arguments claim stands in need of explanation.

Hoary though the Humean objection is, there are at least three reasons why it simply will not do to pretend, as Grayling does, that the mere mention of it constitutes a "definitive" response to cosmological arguments. First, no working physicist, chemist, biologist, or neuroscientist would for a moment take seriously the suggestion that perhaps there simply is no cause or explanation when investigating

[21] Dennett, *Breaking the Spell*, p. 242; Rosenberg, *Atheist's Guide to Reality*, pp. 38–39.
[22] Grayling, *God Argument*, p. 97.

some specific physical, chemical, biological, or neurological phenomenon. The critic of cosmological arguments thus owes us an explanation of how *his* appeal to such a suggestion in the current context is anything less than special pleading. And as Lloyd Gerson has pointed out, the fact that the cosmological argument is *itself* a proposed explanation suffices to show that it is no good to say "Maybe there's no explanation in this case." The argument has *given* one. Therefore if the critic wants to avoid accepting it, he has to find some reason other than the bare suggestion that there might not be an explanation.[23]

A second problem with the Humean move is that it is simply fallacious to infer from the premise that "we can conceive of effects independently of causes" to the conclusion that some event might in fact not have a cause. We can conceive of what it is to be a triangle without at the same time conceiving what it is to be a trilateral, but it doesn't follow that there could be a triangle which was not a trilateral. We can conceive of a man without conceiving of how tall he is, but it doesn't follow that any man could exist without having some specific height or other. And so forth.

A third problem is one identified by Elizabeth Anscombe.[24] Hume claims that it is conceivable that something could come into being without a cause, and he evidently has in mind something like conceiving of an object suddenly appearing, out of the blue as it were, where nothing had been a moment before. But what is it about this exercise in conception that makes it a case of conceiving something coming into being *without a cause*—as opposed, say, to coming into being with an *unseen* cause, or being *transported* from somewhere else in an unknown or unusual manner (by teleportation, perhaps)? The trouble is that the Humean scenario is underdescribed. We need to add something to our exercise in conception in order to make it what Hume needs it to be in order to make his point. Yet it is hard to see what we can add to it that wouldn't involve bringing causation back into the picture and therefore undermining the whole point of the

[23] Lloyd P. Gerson, *Plotinus* (London: Routledge, 1994), p. 13.

[24] See G. E. M. Anscombe, "'Whatever Has a Beginning of Existence Must Have a Cause': Hume's Argument Exposed", in *Collected Philosophical Papers*, vol. 1 (Oxford: Blackwell, 1981). Cf. the discussion in Brian Davies, *An Introduction to the Philosophy of Religion*, 3rd ed. (Oxford: Oxford University Press, 2004), pp. 50–51.

example. For instance, it is hard to see how to distinguish something's coming into being as opposed to being transported unless it is by reference to its having a generating rather than a transporting cause.

I have responded to the Humean objection and the objection from quantum mechanics at greater length in earlier chapters, so I won't belabor these issues here. The interested reader is directed to those earlier discussions.

"Why assume that the universe had a beginning or that a regress of causes must terminate?"

Rosenberg and Krauss put forward something like this sort of objection when they propose that the multiverse hypothesis—according to which the Big Bang that gave rise to our universe involved a branching off from a preexisting universe, which in turn is part of a beginningless series of universes—eliminates the need for a divine cause. Krauss, citing Richard Feynman, also suggests that for all we know there might always be deeper and deeper layers of laws of physics which we can probe until we get bored.[25]

One problem with this is that as I have emphasized many times, First Cause arguments like those defended in this book are not concerned in the first place with the question of whether the universe had a beginning. They are concerned instead to argue that even if the universe (or multiverse for that matter) had no beginning, it would require a divine cause to sustain it in existence perpetually and to explain why it exists at all, even beginninglessly.

I have already explained (above and at greater length in earlier chapters) why it is no good glibly to appeal to laws of nature as if they could be the ultimate explanation of things, and the point holds true however many layers of laws of nature there are. Note also that level upon level of laws of nature would constitute a hierarchical series of the sort described in chapter 1—laws at one level would hold only as a special case of laws at a deeper level, which would in turn hold only as a special case of yet deeper laws—and we have seen why such a series cannot fail to have a first member in the sense of something which can impart causal power without deriving it. Nothing Krauss

[25] Krauss, *Universe from Nothing*, p. 177.

or any other of the New Atheists have to say even addresses this sort of argument, much less undermines it.

"First Cause arguments commit a fallacy of composition."

I have noted already that arguments of the sort defended in this book do not, or at least need not, presuppose any claim about the universe as a whole. Hence, there is no part-to-whole reasoning that could be accused of committing a fallacy of composition. We also saw in chapter 5 that the kind of part-to-whole reasoning that might, on one possible construal of the rationalist proof, underlie the claim that the universe as a whole is contingent, does not in fact involve a fallacy of composition.

However, Grayling, once again citing Hume, claims that an argument of the latter sort commits a fallacy of composition insofar as it supposes that when each member of a collection is explained individually, there is something left over—the collection as a whole—which is yet to be explained.[26] But such an objection simply misses the point. Recall that even an infinite series of moving sticks would still require a cause outside the series precisely because none of the sticks has either individually or collectively the power by themselves to move, and that even an infinite series of mirrors reflecting the image of a face would still require an actual face outside the series since none of the mirrors either individually or collectively has the power by themselves to generate such an image. Points like these were made in the context of illustrating the notion of a hierarchical causal series. But Leibniz makes a similar point in putting forward his own version of the rationalist cosmological argument, when he notes that if we were told that a certain geometry textbook had been copied from an earlier copy, that earlier copy from an earlier one still, *that* one from a yet earlier copy, and so on infinitely into the past, we would hardly have a sufficient explanation of the book we started out with.[27] For why does the series of books as a whole exist with precisely the content they have rather than some other content? Tracing the series of causes backward forever into the past seems to leave the *most important* fact about the phenomenon to be explained untouched.

[26] Grayling, *God Argument*, p. 97.

[27] See G. W. Leibniz, "On the Ultimate Origination of Things" (essay, 1697).

These examples show that if anyone is committing a fallacy of composition, it is actually *Grayling and Hume themselves* who are doing so. For from the fact that I can explain the motion of stick A by reference to stick B, the motion of stick B by reference to stick C, and so on ad infinitum, it simply doesn't follow that I have explained why there is any motion in the series of sticks as a whole. From the fact that I can explain the image in mirror A by reference to mirror B, the image in mirror B by reference to mirror C, and so on ad infinitum, it simply doesn't follow that I have explained how the image got to be in any of the mirrors at all. From the fact that I can explain the geometrical content of book A by reference to book B, the content of book B by reference to book C, and so on ad infinitum, it simply doesn't follow that I have explained why it is that any of the books have any geometrical content at all.

"Even if there were a first cause, there is no reason to think it would be omnipotent, omniscient, perfectly good, and so forth."

Like "What caused God?", this is commonly put forward as a devastating objection to First Cause arguments. And like "What caused God?", it is in fact embarrassingly inept. Grayling refers matter-of-factly to "the usual big jump" from a first cause to "the god of traditional religion".[28] Dawkins assures his readers that there is "absolutely no reason" to attribute omnipotence, omniscience, and so forth to a first cause.[29] Krauss makes a similar claim.[30]

In fact, historically, proponents of each version of the cosmological argument have put forward a great many arguments claiming to show that the cause of the world whose existence they've argued for must have the key divine attributes. Aquinas devotes around a hundred double-column pages of dense argumentation in part I of the *Summa Theologiae* alone—just after presenting the Five Ways—to showing that to the cause of the world we must attribute simplicity, goodness, infinity, immutability, unity, knowledge, life, will, power, and the like. About two hundred pages of argumentation in book I of his *Summa Contra Gentiles* are devoted to this topic. Much

[28] Grayling, *God Argument*, p. 96.
[29] Dawkins, *God Delusion*, p. 77.
[30] Krauss, *Universe from Nothing*, p. 173.

argumentation along these lines can also be found in Aquinas' other works, such as *De potentia* and *De veritate*. Much of Samuel Clarke's book *A Demonstration of the Being and Attributes of God* is, as anyone who has read just the title will discover, devoted to arguing for various divine attributes—infinity, omnipresence, unity, intelligence, free choice, power, wisdom, and goodness. Aristotle, Plotinus, Avicenna, Scotus, Leibniz, and other major philosophers of the past argue for various divine attributes, as do more recent proponents of First Cause arguments like the ones cited earlier in this chapter.

Dawkins, Grayling, Krauss, and the other New Atheist writers offer no response at all to these arguments. In fact it seems that they are entirely unaware that the arguments even exist. In any case, in each of the first five chapters of this book, and at even greater length in chapter 6, I have offered many detailed arguments for the conclusion that the first cause of things must be one, simple, immutable, eternal, immaterial, omnipotent, omniscient, perfectly good, and so forth. Though very common, the claim that even a successful proof of a first cause wouldn't get you to the God of traditional theism is simply groundless.

"Even if it is proved that there is a First Cause, which is omnipotent, omniscient, perfectly good, and so forth, this would not by itself show that God sent prophets to ancient Israel, inspired the Bible, is a Trinity, and so forth."

This is true, but completely irrelevant. Arguments like the ones defended in this book are not claiming in the first place to establish *every* tenet of any particular religion, but rather merely one central tenet that is common to many of them—namely, that there is a cause of the world which is one, simple, immaterial, eternal, immutable, omnipotent, omniscient, perfectly good, and so forth. If they succeed in doing that, then they show that atheism is false, and that the only remaining question is what *kind* of theism one ought to adopt—a purely philosophical theism, or Judaism, or Christianity, or Islam, or some other more specific brand of theism. Deciding that would require further investigation and argumentation. It would be silly to pretend that since the arguments of this book don't answer *every* question about God, it follows that they don't answer *any* question about

God. That is like saying that special relativity theory must be false, because it doesn't tell us whether and how living things evolved, or that quantum mechanics must be wrong, because it doesn't answer all the questions we might have about engineering.

"The cosmological argument presupposes the ontological argument, which is unsound."

This objection was famously raised by Kant, and has more recently been repeated by Grayling.[31] The version of the ontological argument that Kant had in mind was the one put forward by Descartes, according to which the notion of a nonexistent but supremely perfect being is self-contradictory, given that existence is a perfection. Therefore, Descartes' argument concludes, a supremely perfect being must exist. Now, if this argument works, then God's existence would be necessary because he would exist by definition, just as a bachelor is unmarried by definition. Hence, the cosmological argument, which claims that the existence of contingent things is to be explained by reference to a necessary being, presupposes that the ontological argument is sound. But, Kant argues, the ontological argument is unsound (because, he claims, existence is not really a perfection). Hence, the cosmological argument, which presupposes the ontological argument, must be unsound as well.

Now, that one needs to do more than merely *claim* that the cosmological argument presupposes the ontological argument should be obvious enough from the fact that Aquinas, and most Thomists following him, *explicitly reject* the ontological argument while *endorsing* the cosmological. And that there is (contrary to what Kant and Grayling suppose) no inconsistency in their doing so should be clear from what was said about divine necessity in chapter 6. For as we saw there, when arguments like those defended in this book claim that God exists of necessity, they are *not* claiming that he exists by definition. That is not the only notion of necessity there is, and it is not the notion to which they are appealing. But Kant's claim would have merit only if it *were* the notion of necessity to which they were appealing.

[31] Grayling, *God Argument*, p. 98.

To be sure, Grayling does allow that in arguing for the existence of a necessary being, a defender of the cosmological argument might distinguish between a *logically necessary* being—the sort of necessary being the ontological argument is commonly understood to be arguing for, and which Grayling takes to be philosophically dubious—and a *metaphysically necessary* being, which Grayling characterizes as "one *that must exist in order for the universe to have a stopping-point for the regress of causes*, that is, as a ground on which contingent existence can rest".[32] However, this latter conception of necessity doesn't help, Grayling says, because it is merely a relative conception. It amounts to saying merely that God is a necessary *condition* for the existence of the contingent world, which doesn't entail that he is necessary in the sense of being something which could not have failed to exist. And it is the existence of a being that is necessary in this latter, nonconditional sense that the cosmological argument was supposed to be establishing.

But this is a false dichotomy, for as we have seen, there are ways to spell out the notion of metaphysical necessity without either collapsing back into logical necessity or opting for merely conditional necessity. For the Aristotelian, a thing's contingency derives from the fact that it is a mixture of actuality and potentiality; what is pure actuality and has no potentialities that need to be actualized or could be actualized therefore exists necessarily. For the Neo-Platonist, a thing's contingency derives from the fact that it is composite; what is absolutely noncomposite or simple has no parts that need to be or could be combined, and is for that reason necessary. The Thomist would make a similar point, arguing that the first cause is necessary precisely because its essence *just is* existence, and thus need not have, and could not have, existence *conjoined* to it (which need is what makes contingent things contingent in the first place).[33] All of these notions attribute to God a more than merely conditional necessity, but it is not the logical sort of necessity that we attribute to propositions.

[32] Ibid. (emphasis in the original).

[33] Note that the Thomist is saying that God's essence *is* existence, not that it "includes" existence. The latter, common modern way of speaking smacks of just the sort of composition which the Thomist, like the Neo-Platonist, would say cannot exist in God.

"The cosmological argument proposes a 'god of the gaps' in order to explain something which in fact either is, or eventually will be, better explained via a naturalistic scientific theory."

This is, I think it is fair to say, the central conceit of the entire New Atheist project. In the view of the New Atheists, if something is going to be explained at all, it is going to be explained via the methods of science. Therefore (so the argument goes) the appeal to God can at best be a kind of quasi-scientific hypothesis, and the problem is that it is not a good one. For Hitchens, it violates Ockham's razor.[34] Similarly, Dawkins suggests that "it is more parsimonious to conjure up, say, a 'big bang singularity', or some other physical concept as yet unknown."[35] Harris thinks that at least at the moment we can't say much more than this, opining that "the truth is that no one knows how or why the universe came into being."[36] Krauss, Hawking, and Mlodinow, by contrast, think that science has already given us a complete nontheistic explanation of the existence of the world, or near enough. "Because there is a law like gravity", Hawking and Mlodinow write, "the universe can and will create itself from nothing."[37] Krauss' *A Universe from Nothing* is a book-length attempt to make this sort of view plausible.

There are two basic problems with all of this. The first is that the characterization of the question of how to explain the existence of the universe as a matter for empirical science rather than natural theology to settle either completely misses the point or simply begs the question. For one thing, whether or not one thinks any of them succeeds, the versions of the cosmological argument defended in this book are simply *not* "god of the gaps" explanations. A "god of the gaps" explanation is one on which it is at least possible in principle that some nondivine explanation might be correct, and the claim is at most that the theistic explanation is more probable than these alternatives. The versions of the cosmological argument I've been defending, by contrast, are all attempts at *strict metaphysical demonstration*. They claim to show that there is no way *in principle* to account for

[34] Hitchens, *God Is Not Great*, pp. 70–71.
[35] Dawkins, *God Delusion*, p. 78.
[36] Harris, *Letter to a Christian Nation*, p. 73.
[37] Hawking and Mlodinow, *Grand Design*, p. 180.

what they set out to explain other than by reference to a purely actual cause, or an absolutely simple or noncomposite cause, or a cause whose essence just is existence, or a necessary being. Whether or not these claims are correct, the arguments do not stand or fall by the standards by which empirical hypotheses are evaluated—parsimony, fit with existing well-confirmed empirical theories, and so forth.

For another thing, the starting points of these attempts at metaphysical demonstration are not matters about which empirical scientific theory has anything to say in the first place. Rather, they have to do with what any possible empirical theory must itself take for granted. That is to say, their starting points are *metaphysical* rather than physical. Whatever the empirical facts turn out to be, they will at some level involve the actualization of potential, or so the Aristotelian proof argues; they will involve composite beings, or so the Neo-Platonic proof argues; they will require that the essence of a thing be conjoined with its existence, or so the Thomistic proof argues; and they will all be contingent, or so the rationalist proof argues. Simply to assert that any explanation worth taking seriously will have to be an empirical scientific theory rather than an exercise in natural theology is merely to *assume* that all of this is mistaken. It is not to *show* that it is mistaken.

The second problem is that the nontheistic scientific explanation of the existence of the universe proposed by Krauss, Hawking, and Mlodinow is manifestly a nonstarter. "A law like gravity" is not *nothing*; hence, an explanation of the existence of the universe that makes reference to such a law is rather obviously *not*, contrary to what Hawking and Mlodinow suggest, an account of how the universe might arise from nothing. Krauss' book is notoriously shameless in committing the same basic fallacy.[38] In 185 pages purporting boldly to show how the universe can arise from nothing, Krauss spends the first 152 arguing that the universe arose from empty space endowed with energy and governed by physical law, all of which he admits does not count as "nothing". By page 170 he tries to take all of this

[38] I say "notoriously" because Krauss' position has been widely and harshly criticized even by philosophers with no theological ax to grind. Probably the best-known critique is that of philosopher of physics David Albert, who reviewed Krauss' book in the March 23, 2012, *New York Times* book review section.

down to just the laws of quantum gravity, but admits that this does not really count as "nothing" either. At page 177 he finally resorts to suggesting that perhaps there is just layer upon layer of laws.

What is never explained is how any of this counts as showing how the universe arose from *nothing*. There is some obfuscatory chin-pulling about "possible candidates for nothingness", and "what 'nothing' might actually comprise", along with an insistence that any "definition" of nothingness must ultimately be "based on empirical evidence" and that "'nothing' is every bit as physical as 'something' "—as if "nothingness" were a highly unusual kind of stuff that is more difficult to observe or measure than other things are. But of course "nothing" is not a kind of stuff (physical or otherwise), nor anything that is terribly difficult to define (empirically or otherwise), nor something that "comprises" anything, nor anything particularly mysterious or worth pulling one's chin over. It is just the absence of anything. Moreover, Krauss himself seems well aware of this insofar as he ends up acknowledging that his main "candidates for nothingness" are not really *nothing* after all. And what he's left with—a basic level of physical laws or layers of laws—is not only not nothing, but cannot be the ultimate explanation of the world, for the reasons given earlier.

"Science is the only genuine source of knowledge, and our best scientific theories make no reference to God."

The view that science alone gives us genuine knowledge, so that any philosophy or metaphysics worthy of consideration can only be that which is implicit in science, is known as *scientism*. It is a key ingredient of the New Atheism. But despite the self-confidence of its advocates, there are in fact no good arguments whatsoever for scientism, and decisive arguments against it. It is worthwhile addressing this issue at some length.

There are four general problems with scientism. First, scientism is self-defeating and can avoid being self-defeating only at the cost of becoming trivial and uninteresting. Second, the scientific method cannot even in principle provide us with a complete description of reality. Third, the "laws of nature" in terms of which science explains phenomena cannot in principle provide us with a complete

explanation of reality. Fourth, what is probably the main argument in favor of scientism—the argument from the predictive and technological successes of modern physics and the other sciences—has no force. Let us examine each of these points in order.

First, as I have said, scientism faces a dilemma: it is either self-refuting or trivial. Take the first horn of this dilemma. The claim that "the methods of science are the only reliable ways to secure knowledge of anything"[39] is not itself a scientific claim, not something that can be established using scientific methods. Indeed, that science is even *a* rational form of inquiry (let alone *the only* rational form of inquiry) is not a claim that can be established scientifically. For scientific inquiry rests on a number of philosophical assumptions: the assumption that there is an objective world external to the minds of scientists; the assumption that this world is governed by regularities of the sort that might be captured in scientific laws; the assumption that the human intellect and perceptual apparatus can uncover and accurately describe these regularities; and so forth. Since scientific method *presupposes* these things, it cannot attempt to *justify* them without arguing in a circle. To break out of this circle requires "getting outside" of science altogether and discovering from that extrascientific vantage point that science conveys an accurate picture of reality—and, if scientism is to be justified, that *only* science does so. But then the very existence of that extrascientific vantage point would falsify the claim that science *alone* gives us a rational means of investigating objective reality.

The rational investigation of the philosophical presuppositions of science has, naturally, traditionally been regarded as the province of philosophy. Nor is it these presuppositions alone that philosophy examines. There is also the question of how to interpret what science tells us. For example, is the world fundamentally comprised of substances or events? What is it to be a "cause"? What is the nature of the universals referred to in scientific laws—concepts like *quark*, *electron*, *atom*, and so on? Do they exist over and above the particular things that instantiate them? Do scientific theories really give us a description of objective reality in the first place, or are they just useful tools for predicting the course of experience? Scientific findings

[39] Rosenberg, *Atheist's Guide to Reality*, p. 6.

can shed light on such metaphysical questions, but can never fully answer them. Yet if science depends upon philosophy both to justify its presuppositions and to interpret its results, the falsity of scientism is doubly assured. As John Kekes concludes: "Hence philosophy, and not science, is a stronger candidate for being the very paradigm of rationality."[40]

Here we come to the second horn of the dilemma facing scientism. Its advocate may now insist that if philosophy has this status, then it must really be a part of science, since (he continues to maintain, digging in his heels) all rational inquiry is scientific inquiry. The trouble now is that scientism becomes completely trivial, arbitrarily redefining "science" so that it includes anything that could be put forward as evidence against scientism. Worse, this move makes scientism consistent with views that are supposed to be *incompatible* with it.

For example, the arguments of this book claim to demonstrate that no world of physical things—things of the sort which form the subject matter of scientific inquiry—could exist even in principle unless there is a divine uncaused cause, which at every moment conserves them in being and imparts to them their causal power. But if these arguments are correct, then God's existence follows from the very assumptions that underlie science. Indeed, philosophers like Aristotle and Aquinas took the view that since we can know a fair amount about the existence and nature of God through reason alone, natural theology *itself* constitutes a kind of science. They would not agree with the narrow conception of "science" according to which a discipline is only "scientific" to the extent that it approximates the mathematical modeling techniques and predictive methods of physics. For Aristotle and Aquinas, the truths of natural theology may not be expressible in mathematical language and are not based on specific predictions or experiments, but that does not make them less certain than the claims of physics. On the contrary, they are more certain, because they rest on strict demonstrations which begin from premises that any possible physical science must take for granted.

Obviously the atheist would not agree with that, but the specific point I am making here does not ride on whether the arguments of the previous chapters are correct. The point is rather that if the

[40]John Kekes, *The Nature of Philosophy* (Oxford: Basil Blackwell, 1980), p. 158.

advocate of scientism defines "science" so broadly that anything for which we might give a philosophical argument would count as "scientific", then he has no nonarbitrary reason for denying that natural theology could in principle count as a science. Yet the whole point of the appeal to scientism in this context was supposed to be to provide a justification for dismissing natural theology out of hand as unscientific. Hence, if the advocate of scientism can avoid making his doctrine self-defeating only by defining "science" this broadly, then the view becomes completely vacuous. Certainly it is no longer available as a magic bullet by which to take down the rational credentials of natural theology. The advocate of scientism will have to face the arguments of natural theology head-on rather than putting his fingers in his ears and saying: "I needn't even listen to them, since they're not scientific arguments."

The second problem facing scientism, I have said, is that science cannot in principle provide a complete description of reality. Indeed, it cannot in principle provide a complete description even of *physical* reality. The reason, paradoxical as it sounds, has to do precisely with the method that has made the predictive and technological achievements of modern physics possible. Physics insists upon a purely *quantitative* description of the world, regarding mathematics as the language in which the "Book of Nature" is written (as Galileo famously put it). Hence, it is hardly surprising that physics, more than other disciplines, has discovered those aspects of reality susceptible of the prediction and control characteristic of quantifiable phenomena. Those are the only aspects to which the physicist will allow himself to pay any attention in the first place. Everything else necessarily falls through his methodological net.

Now our ordinary experience of nature is of course *qualitative* through and through. We perceive colors, sounds, flavors, odors, warmth and coolness, pains and itches, thoughts and choices, purposes and meanings. Physics abstracts from these rich concrete details, ignoring whatever cannot be expressed in terms of equations and the like and thereby radically simplifying the natural order. There is nothing wrong with such an abstractive procedure as long as we keep in mind what we are doing and why we are doing it. Indeed, what the physicist does is just an extension of the sort of thing we do every day when solving practical problems.

For example, when figuring out how many people of average weight can be carried on an airplane, engineers deal with abstractions. For one thing, they ignore every aspect of actual, concrete human beings except their weight; for another, they ignore even their actual weight, since it could turn out that there is no specific human being who has exactly whatever the average weight turns out to be. This is extremely useful for the specific purposes at hand. But of course it would be ludicrous for those responsible for planning the flight entertainment or meals to rely solely on the considerations the engineers are concerned with. It would be even more ludicrous for them to insist that unless evidence of meal and movie preferences can be gleaned from the engineers' data, there just is no fact of the matter about what meals and movies actual human beings would prefer. Such evidence is missing precisely because the engineers' abstractive method guarantees that it will be missing.

The description of the world physics gives us is no less abstract than the one the engineers make use of. Physics simply does not give us material systems in all their concrete reality, any more than the aircraft engineers' description gives us human beings in all their concrete reality. It focuses, as I have said, only on those aspects that are susceptible of prediction and control, and thus on those aspects which can be modeled mathematically. Hence, it would be no less ludicrous to suggest that if the description physics gives us of the world does not make reference to some feature familiar to us in ordinary experience, then it follows that the feature in question doesn't exist. The success of the aircraft engineers' methods doesn't show that human beings have no features other than weight. And the success of physics doesn't show that the natural world has no features other than those described in a physics textbook. The reason qualitative features don't show up is not that the method has allowed us to discover that they aren't there but rather that the method has essentially stipulated that they be left out of the description whether they are there or not.

As I noted in chapter 1, Bertrand Russell—who, as we saw above, was by no means sympathetic to natural theology—emphasized how limited is the knowledge of nature afforded us by physics:

> It is not always realised how exceedingly abstract is the information that theoretical physics has to give. It lays down certain fundamental

> equations which enable it to deal with the logical structure of events, while leaving it completely unknown what is the intrinsic character of the events that have the structure.... All that physics gives us is certain equations giving abstract properties of their changes. But as to what it is that changes, and what it changes from and to—as to this, physics is silent.[41]

Now if, as Russell emphasized, physics gives us the abstract structure of the material world but does not tell us the intrinsic nature of that which has that structure, then not only does physics not tell us everything about physical reality, but it tells us that there must be something more to physical reality than what it has to say. For there is no such thing as a structure all by itself; there must be something that has the structure. By the very fact that physics tells us that an abstract structure of such-and-such a mathematically describable character exists, then, physics implies that there is more to reality than that structure itself, and thus more to reality than what physics can reveal.

If there are limits to what science can *describe*, there are also limits to what science can *explain*. This brings us to the third problem facing scientism—namely, that the "laws of nature" in terms of which science explains phenomena cannot in principle provide an *ultimate* explanation of reality. The reason why should be obvious from what was said above about Krauss. Any appeal to laws of nature (or a series of "layers" of such laws, such as that proposed by Krauss) simply raises questions about *what* a law of nature *is* in the first place, *how* it has any efficacy, and *where* it (or the series of "layers") comes from. And these are questions which the scientific mode of explanation, which *presupposes* such laws, cannot in principle answer.

Now, as noted earlier, there are various philosophical theories about the status of laws of nature on offer, but none of them gives any aid or comfort to scientism. We might hold, for example, that to speak of the "laws of nature" that govern some material thing or system is simply a shorthand way of describing the manner in which that thing or system will operate given its nature or essence. This is the Aristotelian approach to understanding physical laws. But on this view the "laws of nature" *presuppose* the existence and operations

[41] Bertrand Russell, *My Philosophical Development* (London: Unwin Paperbacks, 1985), p. 13.

of the physical things that follow the laws. And in that case the laws cannot possibly *explain* the existence or operations of the material things themselves. In particular, and contrary to writers like Krauss, since the ultimate laws of nature presuppose the existence of the physical universe, they cannot intelligibly be appealed to as a way of explaining the existence of the universe.

A second view of what "laws of nature" are and how they operate is the one endorsed by early modern thinkers like Descartes and Newton, who sought to overthrow the Aristotelian philosophy that dominated the Middle Ages. On their view, the notion of a "law of nature" is irreducibly theological, a shorthand for the idea that God has set the world up so as to behave in the regular way described by the laws. On this view it is really God's action that strictly does the explaining, and neither material things nor the laws they follow really explain anything. But for obvious reasons, this too is not a view that gives any help to scientism, certainly not if it is intended as a weapon for use against natural theology.

A third possibility is to hold that "laws of nature" are really nothing more than a description or summary of the regular patterns we happen to find in the natural world. They don't tell us anything about the natures of material things, and they don't reflect the will of God. To say that it is a law of nature that A is followed by B is on this view simply to say that A's tend to be followed by B's in a regular way, and that's that. This is the sort of view defended by followers of David Hume. But on this view, laws tell us only *that* such-and-such a regularity exists, but not *why* it exists. That is to say, on this view a law of nature (or at least the ultimate laws of nature) don't *explain* a regularity, but merely *re-describe* it in a different jargon. Needless to say, then, this sort of view hardly supports the claim that science can provide an ultimate explanation of the world.

A further possibility would be to interpret "laws of nature" as abstract objects comparable to Plato's Forms, existing in a realm beyond the material world, and where physical things somehow "participate in" the laws in something like the way Plato thought that every tree participates in the Form of Tree or every triangle participates in the Form of Triangle. Here too an appeal to laws of nature doesn't really provide an ultimate explanation of anything. For given this view we would still need to know how it comes to be that there is a physical world that "participates in" the laws in the first place,

why it participates in these laws rather than others, and so on. And that requires an appeal to something other than the laws.

So, once again we have questions which of their nature cannot be answered by science but only by philosophy, because they deal precisely with what any possible scientific explanation must take for granted. Nor will it do to suggest that ultimate explanation is not to be had anyway, so that science cannot be faulted for failing to provide it. For one thing, this is itself a philosophical claim rather than a scientific one. For another, the claim is false, since it violates the principle of sufficient reason (which I defended in chapter 5).

Now if scientism faces such grave difficulties, why are so many intelligent people drawn to it? The answer, to paraphrase a remark made by philosopher Ludwig Wittgenstein in another context, is that "a picture holds them captive." Hypnotized by the unparalleled predictive and technological successes of modern science, they infer that scientism must be true. Consider the argument for scientism given by Alex Rosenberg in his book *The Atheist's Guide to Reality*. He writes:

> The technological success of physics is by itself enough to convince anyone with anxiety about scientism that if physics isn't "finished," it certainly has the broad outlines of reality well understood....
>
> And it's not just the correctness of the predictions and the reliability of technology that requires us to place our confidence in physics' description of reality. Because physics' predictions are so accurate, the methods that produced the description must be equally reliable. Otherwise, our technological powers would be a miracle. We have the best of reasons to believe that the methods of physics—combining controlled experiment and careful observation with mainly mathematical requirements on the shape theories can take—are the right ones for acquiring all knowledge. Carving out some area of "inquiry" or "belief" as exempt from exploration by the methods of physics is special pleading or self-deception....
>
> The phenomenal accuracy of its prediction, the unimaginable power of its technological application, and the breathtaking extent and detail of its explanations are powerful reasons to believe that physics is the whole truth about reality.[42]

[42] Rosenberg, *Atheist's Guide to Reality*, pp. 23–25.

Of course, many proponents of scientism would regard Rosenberg's physics-only version as too restrictive. They would regard sciences like chemistry, biology, and the like as genuine sources of knowledge even if it turned out that they are irreducible to physics. But they would agree with Rosenberg's main point that the "success" of science, broadly construed, supports scientism. Rosenberg's argument, suitably modified in a way that would make it acceptable to other defenders of scientism, is essentially this:

1. The predictive power and technological applications of science are unparalleled by those of any other purported source of knowledge.
2. Therefore, what science reveals to us is probably all that is real.

Now this, I maintain, is a bad argument. How bad is it? About as bad as this one:

1. Metal detectors have had far greater success in finding coins and other metallic objects in more places than any other method has.
2. Therefore, what metal detectors reveal to us (coins and other metallic objects) is probably all that is real.

Metal detectors are keyed to those aspects of the natural world susceptible of detection via electromagnetic means (or whatever). But however well they perform this task—indeed, even if they succeeded on every single occasion they were deployed—that simply wouldn't make it even probable that there are no aspects of the natural world other than the ones they are sensitive to. Similarly, what physics does (and there is no doubt that it does it brilliantly) is to capture those aspects of the natural world susceptible of the mathematical modeling that makes precise prediction and technological application possible. But here too, it simply doesn't follow that there are no other aspects of the natural world.

Rosenberg adds to his argument the suggestion that those who reject scientism do not do so consistently. He writes:

> "Scientism" is the pejorative label given to our positive view by those who really want to have their theistic cake and dine at the table of

> science's bounties, too. Opponents of scientism would never charge their cardiologists or auto mechanics or software engineers with "scientism" when their health, travel plans, or Web surfing are in danger. But just try subjecting their nonscientific mores and norms, their music or metaphysics, their literary theories or politics to scientific scrutiny. The immediate response of outraged humane letters is "scientism."[43]

So, according to Rosenberg, unless you agree that science is the *only* genuine source of knowledge, you cannot consistently believe that it gives us *any* genuine knowledge. But this is about as plausible as saying that unless you think metal detectors *alone* can detect physical objects, then you cannot consistently believe that they detect *any* physical objects at all. Those beholden to scientism are bound to protest that the analogy is no good, on the grounds that metal detectors detect only part of reality while science detects the whole of it. But such a reply would simply beg the question, for whether science really does describe the *whole* of reality is precisely what is at issue.

The non sequitur is very common but it is a non sequitur all the same. It is implicit every time a defender of scientism demands to know the predictive successes and technological applications of metaphysics or theology, and supposes he has won a great victory when his critic is unable to list any. This is about as impressive as demanding a list of the metal-detecting successes of gardening, cooking, and painting, and then concluding from the fact that no such list is forthcoming that spades, spatulas, and paintbrushes are all useless and ought to be discarded and replaced with metal detectors. The fallacy is the same in both cases. That a method is especially useful for certain purposes simply does not entail that there are no other purposes worth pursuing nor other methods more suitable to those other purposes. In particular, if a certain method affords us a high degree of predictive and technological power, what that shows is that the method is useful for dealing with those aspects of the world that are predictable and controllable. But it does *not* show us that those aspects *exhaust* nature, that there is nothing more to the natural world than what the method reveals. Those who suppose otherwise are like the proverbial drunk who assumes that, because the area under the

[43] Ibid., p. 6.

street lamp is the only place he would be able to see the keys he has lost, there must be no other place worth searching for them and no other method by which they might be found.

At this point some advocates of scientism might admit that there are questions science cannot answer and even that there are other methods for dealing with those questions, such as those provided by philosophy. But they might still insist that there is little point in pursuing these questions or methods, on the grounds that the questions are not susceptible of the crisp and definitive answers that science affords and that the methods do not generate the technologies that science provides us with. On this view, the superiority of science is evidenced by its *practical value* and by the fact that it achieves *consensus*, or at least something approaching consensus. Philosophy, by contrast, is notoriously controversial and impractical. So, even if science can't tell us everything, it does tell us everything worth knowing about.

But a moment's reflection shows that this fallback position will not work. For one thing, to take this sort of position is like avoiding classes you know you won't do well in and then appealing to your high grade point average as evidence of your superior intelligence. If you will *allow to count* as "scientific" only what is predictable and controllable and thus susceptible of consensus answers and technological application, then naturally—but trivially—science is going to be one long success story. But this no more shows that the questions that fall through science's methodological net are not worthy of attention than the fact that you've only taken courses you knew you would excel in shows that the other classes aren't worth taking. For another thing, the claim that only questions susceptible of scientific investigation, consensus answers, and technological application are worth investigating is itself not a scientific claim, but a philosophical claim, and thus one that requires a philosophical defense. Once again the very attempt to avoid going beyond science implicates one in doing so.

Now, contemporary philosophers who advocate scientism will insist that unless philosophy is "naturalized" by making of it nothing more than an extension of science, then the only thing left for it to be is a kind of "conceptual analysis". And the trouble with this, they will say, is that we have no guarantee that the "intuitions" or

"folk notions" the conceptual analyst appeals to really track reality.[44] "Conceptual analysis" can tell us at most only how we happen to *think* about or *conceptualize* the world, and not about how the world itself really *is*. But this argument rests on a false alternative. The supposition that if you are not doing natural science, then the only other thing you could be doing is "conceptual analysis", is essentially a variation on Hume's Fork, the thesis that "all the objects of human reason or enquiry may naturally be divided into two kinds, to wit, *Relations of Ideas*, and *Matters of Fact*."[45] Now Hume's Fork is notoriously self-refuting, since it is not itself either a conceptual truth (a matter of the "relations of ideas") or empirically testable (a "matter of fact"). And the supposition made by the contemporary advocate of scientism is no better. The claim that "all the objects of human reason or enquiry" are or ought to be either matters of "conceptual analysis" or matters of natural science is itself neither a conceptual truth nor a proposition for which you will find, or could find, the slightest evidence in natural science.[46] Like Hume's Fork, then, it is self-refuting.

That fact alone suffices to show that it is possible to take a cognitive stance toward the world that is neither that of natural science, nor merely a matter of tracing out conceptual relations in a network of ideas that might float entirely free of mind-independent reality (as "conceptual analysts" are accused of doing). The advocate of scientism takes this third stance in the very act of denying that it can be taken. But more can be said. Famously, there are truths—namely,

[44] See James Ladyman and Don Ross, with David Spurrett and John Collier, *Every Thing Must Go: Metaphysics Naturalized* (Oxford: Oxford University Press, 2007), chap. 1.

[45] David Hume, *An Enquiry Concerning Human Understanding*, ed. Antony Flew (LaSalle, Ill.: Open Court, 1988), p. 71.

[46] The advocate of scientism might claim that neuroscience and cognitive science support the conclusion that if some form of inquiry is not a kind of natural science, then the only other thing it could be is a kind of conceptual analysis. Leave aside the obvious rejoinder that before we can take such a claim seriously, we would need to see the specific evidence from neuroscience or cognitive science that purportedly shows this. The deeper problem is that neuroscience and cognitive science could show this even in principle only if they are the *only* genuine sources of knowledge about human cognitive faculties, i.e., only if epistemology and other branches of philosophy don't give us genuine knowledge about our cognitive faculties that is not a kind of scientific knowledge or a kind of conceptual analysis. But whether they are the only genuine sources of such knowledge is itself part of what is at issue in the dispute between scientism and its critics. Hence, for the advocate of scientism to appeal to neuroscience and cognitive science in this way would be to beg the question.

those of logic and mathematics—that do not plausibly fit into either of the two categories Hume and his successors would, in Procrustean fashion, try to fit all knowledge into. Truths of logic and mathematics have a *necessity* that propositions of natural science lack and an *objectivity* that mere "conceptual analysis" is unable to guarantee. Some advocates of scientism would try to find ways of showing that logical and mathematical truths are not really necessary or objective after all, but as we saw in chapter 3, there are notorious difficulties with such proposals. Nor can the advocate of scientism give any non-question-begging reason for taking them seriously in the first place. The only motivation he has for denying the necessity or objectivity of logic and mathematics is to try to save scientism from embarrassment.

Now, the arguments defended in this book show that there are truths of natural theology which (like the truths of logic and mathematics) are necessary and objective, but which also (like the truths of logic and mathematics) are not propositions either of natural science or of mere "conceptual analysis". Like logic and mathematics, and like scientism's own basic epistemological assumption, they simply fall between the tines of Hume's Fork. The advocate of scientism might not understand how such knowledge is possible, but that is his problem, not the natural theologian's. The advocate of scientism already has oceans of knowledge for which he cannot account—again, the truths of logic and mathematics, and his own metaphysical variation on Hume's Fork—and thus has no business questioning the epistemological credentials of natural theology. He is like a thief caught red-handed with the loot, who demands that the police who have apprehended him produce the pink slip for their cruiser.

"The fundamental laws of nature are best regarded as an unexplained 'brute fact' rather than as something in need of any explanation, theological or otherwise."

Suppose the atheist concedes that the preceding objections all fail. In particular, suppose he concedes that neither Hume nor quantum mechanics has undermined the claim that everything has an explanation. Suppose he concedes that science cannot provide the ultimate explanation of the fundamental laws of nature. Suppose he concedes that there are genuine sources of explanation other than science, such as philosophy. He might still claim that there just happens to be no

explanation, not even one provided by any philosophical argument, for the specific fact that the fundamental laws of nature are as they are. We can explain everything else, on this view, by tracing them down to these fundamental laws. But those laws themselves have no explanation whatsoever—neither a theological explanation, nor a philosophical explanation, nor a scientific explanation, nor an atheistic explanation, nor any other sort of explanation. They are just there, as an inexplicable "brute fact", and that's all that can be said. J.L. Mackie and Bertrand Russell essentially take this position.[47]

One problem with this view is that it is incompatible with the principle of sufficient reason, and as I argued in chapter 5, the principle of sufficient reason is true. Hence, there *must* be an explanation of the fundamental laws of nature, and this objection is just a nonstarter.

Another problem with this view is that it is entirely ad hoc. There seems to be no motivation at all for adopting it other than as a way to avoid having to accept arguments like the ones defended in this book—an ironic result given that atheists often like to accuse *theists* of tailoring their philosophical premises to fit a desired conclusion! One *would* have an independent motivation for taking it if objections to the principle of sufficient reason grounded in Hume's philosophy or quantum mechanics succeeded, but as we have seen, those objections do not succeed. Moreover, as Gerson notes (as we saw above), it is no good for the atheist to respond to arguments like those defended in this book by saying: "Maybe things ultimately just have no explanation." The defender of the arguments can respond: "What are you talking about? I just *gave you* an explanation. If you don't want to accept it, then you have to show me specifically what is wrong with it, not pretend that it doesn't exist!"

A third problem, though, as we saw in chapter 5, is that if the *fundamental* laws of nature have no explanation, then none of the higher-level laws of nature can explain anything. In particular, to "explain" some phenomenon P in terms of a law of nature A, and law of nature A in terms of law of nature B, but then to say that law of nature B itself has no explanation but is just a "brute fact", is like placing a

[47] See J.L. Mackie, *The Miracle of Theism* (Oxford: Clarendon Press, 1982), pp. 84–87; Bertrand Russell and F.C. Copleston, "A Debate on the Existence of God", in *The Existence of God*, ed. John Hick (New York: Macmillan, 1964), pp. 168–78.

book on a shelf, and the shelf on two brackets, but then letting go of the brackets in midair and expecting the book and shelf to stay aloft. A regress of laws is like a hierarchical series of causes of the sort discussed in chapter 1. It must terminate in something that is self-explanatory and can thus impart explanatory power without having to derive it. Something that is *un*explained cannot do that. Something that is explained only by reference to something else also cannot do that, for it will be just one more thing that has to derive whatever explanatory power it has. Only what is purely actual, without parts, has existence as its very essence, and is thus absolutely necessary can do that, because only such a thing is self-explanatory.

"A designer of the universe would be even more complex than the universe itself and thus require a cause of its own."

This objection goes back at least to Hume, and is given special emphasis by Dawkins.[48] It should be obvious by now what is wrong with it. One problem is that the objection is directed at "design arguments" like those associated with William Paley and "Intelligent Design" theory. Such arguments begin with the premise that many natural objects—the eye, the bacterial flagellum, and other examples drawn from biology as stock examples—are very complex insofar as they have many parts that have to be put together in just the right way if the object is to function properly. It then notes that human artifacts are also complex in just the same way, and have as their cause intelligent designers—namely, us. They conclude that it is, by analogy, highly probable that the natural objects in question also have an intelligent designer. This prompts the objection that if the designer is like us, then he too will be complex in just the way described. Hence, if other complex things require a cause, so too will the designer require a cause. Since the hypothesis of a designer would thereby merely add to the number of things for which we need to find an explanation, it is probable (the critic of the "design argument" concludes) that a more parsimonious explanation than the design hypothesis is the correct one.

The arguments defended in this book simply have nothing at all to do with "design arguments" of this sort. For one thing, none of

[48] Dawkins, *God Delusion*, pp. 157–58.

them appeals to "complexity" in the relevant sense. It is true that the Neo-Platonic proof begins with the observation that the things of our experience are composite or have parts, but it is not at all concerned with whether these things have *many* parts, with whether the parts have to be put together in exactly such-and-such a way in order for the thing to function, with whether the things are interestingly similar to human artifacts, and so forth. A pebble or a drop of water or any other relatively simple object which in the normal course of things obviously comes about through natural, unintelligent causes would for the Neo-Platonist do as well as any other example as a starting point for the proof—something which Paley or an "Intelligent Design" theorist would never take as an example of the kind of "complexity" they are interested in.

Secondly, none of the arguments in this book is at all concerned, as the "design argument" is, with questions about the "probability" of this or that object coming about through natural processes. For one thing, the arguments are not concerned in the first place with any "linearly" ordered series of causes that traces back to a temporal beginning point, such as the origin of this or that species. They are concerned instead with "hierarchically" ordered series of causes of the sort described in chapter 1, operating here and now and at any moment at which the things being explained exist. For another thing, the arguments claim that the existence of God follows *of necessity* from the premises from which they begin. The arguments are attempts at *strict metaphysical demonstration*, not (as "design arguments" are) mere exercises in inductive or abductive reasoning. Hence, it misses the point to evaluate any of the arguments defended in this book the way one would evaluate an inductive or abductive argument—for example, by proposing that some explanation other than God might be more probable, more parsimonious, and so forth. To refute any of the arguments defended in this book, one has to show that it fails *as a demonstration*—that one or more of its premises is false, or that its conclusion does not follow logically from the premises, or that it somehow begs the question.

But third, and most importantly, all of the arguments defended in this book would *agree* with Hume and Dawkins that a cause of the world which was itself complex would require a cause of its own. That is why they conclude that the ultimate explanation of things

must be something absolutely *simple* or *non*composite rather than complex. That is true of the God arrived at by the arguments I've been defending, and it is *not* true of anything Hume, Dawkins, or any other atheist would posit as an alternative terminus of explanation. Considered as an objection to the kind of natural theology defended in this book, Hume's and Dawkins' objection completely misses the point.

"Anyone who rejects Zeus, Venus, Thor, Quetzalcoatl, and the other pagan gods—as Jews, Christians, and Muslims no less than atheists do—should, to be consistent, go one god further and reject also the God of Western monotheism."

This "one god further" objection has been raised by various atheists, including Richard Dawkins and Colin McGinn.[49] The first thing to say in response is that we have seen in this book that there are at least five arguments which demonstrate that the God of Western monotheism exists, whereas no one claims there are any arguments showing that Zeus, Venus, Thor, Quetzalcoatl, and so forth exist. Hence, there is no inconsistency in affirming the existence of the former while denying the existence of the latter. In any event, if the atheist claims otherwise, he will have to answer those five arguments rather than merely glibly compare the God of Western monotheism to these various pagan gods.

A deeper problem with the objection, though, is that it very badly misunderstands what the debate between atheism on the one hand, and the classical theism of Aristotle, Plotinus, Augustine, Maimonides, Avicenna, Aquinas, Leibniz, and others on the other, is all about. Proponents of the "one god further" objection implicitly suppose that it is a question of whether there exist one or more instances of an unusual class of entities called "gods", understood as "supernatural beings" comparable to werewolves, ghosts, and Santa Claus. And they think of the God of classical theism as merely one

[49] The expression "go one god further" is widely attributed to Dawkins, though he seems to have used it only in a public lecture rather than in print. McGinn presented a version of this objection in "Why I Am an Atheist", *Theoretical and Applied Ethics* 1 (2012): 6–10. I replied to McGinn in "Why McGinn is a Pre-Theist", which originally appeared in the same issue of *Theoretical and Applied Ethics* (pp. 11–14) and is reprinted in my *Neo-Scholastic Essays* (South Bend, Ind.: St. Augustine's Press, 2015), pp. 193–99.

of these gods or beings alongside the others, such as Zeus, Venus, Thor, Quetzalcoatl, and so forth. But as we have seen in the course of this book, that is simply not the case. The God of classical theism is not a member of any species or genus—including the species or genus "gods"—because if he were, he would be composed of parts (such as genus and specific difference), and he is instead absolutely simple or noncomposite. He does not share an essence with other members of some class of things called "gods", because if he did, then there would be a distinction in him between his essence and his existence, and in fact he *just is* existence itself. He is not merely one unusual cause among others but rather the purely actual actualizer and thus the source of the causal power of all things other than himself (including gods like Zeus, Venus, Thor, Quetzalcoatl, if they existed). According to the stories we read about them, these other "gods" are in various respects limited—they exhibit fluctuating emotional states, have physical bodies, come into existence, have parents or other causes, can have their efforts frustrated, are ignorant of certain things, exhibit various moral vices, and so forth—whereas the God of classical theism is immutable, immaterial, eternal, uncaused, omnipotent, omniscient, perfectly good, and so forth. Each of these various gods is "a being" alongside other beings, whereas the God of classical theism is not "a being"—that is to say, something which merely *has* being and *derives* being from some source—but is rather underived or subsistent being itself, that from which anything else that exists or could exist derives its being.

In order to see how inept the "one god further" objection is, it will be useful to consider a couple of analogies. Suppose someone skeptical about Euclidean geometry said:

> Euclideans already agree that the particular triangles we see drawn on chalkboards, in books, in the sand at the beach, and so forth all have sides that are less than perfectly straight. But I maintain that Euclidean plane triangles *as such* have sides that are less than perfectly straight. All I am doing is extending the doubt that Euclideans share with me to their favored triangles too. I find their disbelief in the perfect straightness of the sides of the triangles we see drawn in books thoroughly sensible. I would merely urge them to push it one stage further, to triangularity itself. I favor total disbelief in the straightness of the sides of triangles, whereas they are selective in their disbelief.

Or suppose a critic of Plato's Theory of Forms said:

> Platonists already agree with me that the things we come across in everyday experience are all in various ways imperfect or less than fully good instances of their kinds. But I maintain that the Form of the Good is also imperfect or less than a fully good instance of goodness. All I am doing is extending the doubt Platonists share with me to their own favored entity. I find their disbelief in the perfect goodness of the things of our experience thoroughly sensible. I would merely urge them to push it one stage further, to the Form of the Good itself. I favor total disbelief in the idea that things are ever perfect instances of their kinds, whereas they are selective in their disbelief.

Now, obviously such remarks would hardly constitute devastating objections to Euclidean geometry and Platonic metaphysics. Rather, our imagined anti-Euclidean and anti-Platonist would be making serious category mistakes, and demonstrating that they have badly misunderstood the views they are dismissing. In particular, the anti-Euclidean in question would be supposing that the concept of a triangle as defined in textbooks of Euclidean geometry is merely one triangle alongside all the others that one comes across in traffic signs, dinner bells, and the like, only invisible and better drawn. But of course, that is not what it is at all. What the textbooks describe is not *a* triangle, not even an especially well-drawn one, but rather *(Euclidean) triangularity itself*, and the triangles one comes across in everyday experience are defective precisely because they fail to conform to the standard it represents. Similarly, the anti-Platonist in question supposes that the Form of the Good is merely one more or less perfect or imperfect instance of some class or category alongside the other instances, albeit an especially impressive one. But of course, that is not at all what the Form of the Good is supposed to be. The Form of the Good doesn't *have* goodness in some more or less incomplete way; rather, it just *is* goodness, participation in which determines the degree of goodness had by things which *do* have goodness only in some more or less incomplete way.

Notice that the point has nothing to do with whether either Euclidean geometry or Platonism is true, or with whether there are good arguments for or against either view. Even if the material world actually conforms to some non-Euclidean geometry, on which the

sides of triangles are curved rather than straight, the remarks of our hypothetical anti-Euclidean would still be confused. For the Euclidean would even in that case not be making the *kind* of mistake our hypothetical anti-Euclidean supposes. It would not be that there *are* Euclidean triangles but that they too have, after all, sides that are imperfectly straight; *that* claim doesn't even make sense. It would rather be that Euclidean triangles, which of course always have perfectly straight sides, just aren't instantiated after all. Similarly, even if objections to Platonism like the "Third Man" Argument are correct, the remarks of our hypothetical anti-Platonist would also still be confused. For it would not in that case be that there is a Form of the Good but that it too is, after all, less than perfectly good; that claim also makes no sense. It would rather be that there is no Form of the Good in the first place.

The "one god further" objection commits a similar blunder. To suppose that the God of classical theism is "a god" or "a being" alongside Zeus, Venus, Thor, Quetzalcoatl, and so forth is like supposing that *triangularly* in the abstract is one triangle alongside the others one finds on chalkboards, in books, and so forth, or that Plato's Form of the Good is merely one more or less good object alongside others, such as good people, good food, and good books. It is to commit a crude category mistake. And here too, the point has nothing to do with whether or not classical theism is true, or with whether the arguments for it are ultimately any good. Even if the atheist were correct, that would not be because it turned out that the God of classical theism really was after all another nonexistent member of a class of "gods" which includes Zeus, Venus, Thor, Quetzalcoatl, and so forth. *That* sort of suggestion doesn't even make sense, any more than the suggestions of our hypothetical anti-Euclidean or anti-Platonist make sense.

"The God of philosophical theism is not the God most ordinary religious believers believe in."

There are two problems with this objection. First, it would be irrelevant even if it were true. If the arguments defended in this book succeed, then the God of philosophical theism exists and atheism is therefore false. The only question that remains is whether some

religion such as Judaism, Christianity, and Islam gives us further, divinely revealed knowledge about this God. The serious remaining debate will be between theists of various stripes, not between atheism and theism.

But the objection in question is *not* true. For one thing, some religions to which ordinary religious believers adhere embrace the God of philosophical theism. For example, it is standard Catholic teaching that the God of the Bible and the God which can be known by means of philosophical arguments are one and the same. According to the Catholic position, some of what we know about this God (such as that he is omnipotent and omniscient) can be known both by philosophical argumentation and by divine revelation, and some of what we know about him (such as that he is a Trinity) can be known only by divine revelation. But it is, Catholicism teaches, the same one God about which we know via these different sources. Other religions make similar claims.

The critic might object that what theologians and official Church documents say is one thing, but what the ordinary man in the pew thinks is another thing entirely. But that is also false. True, the average, uneducated religious believer knows little or nothing about the doctrine of divine simplicity, the distinction between essence and existence, the theory of actuality and potentiality, and other technical philosophical concepts that enter into the articulation and defense of classical theism. But then, the average, uneducated person also has a very crude understanding of what scientists mean when they talk about molecules, atoms, fields of force, and so forth. He might wrongly suppose that particles like the ones in question are literally like little balls connected by sticks. It doesn't follow that he does not after all believe in atoms, molecules, and the like, but only that he has a much less sophisticated understanding of these things than experts do. Similarly, the average religious believer believes, just as the philosophical theologian does, that God is the cause of the world, that he is unique, that he is uncaused and never came into existence, that he is all-powerful, all-knowing, and all-good, and so forth. He does not articulate or defend these beliefs the way the philosopher would, but that doesn't entail that he doesn't believe in the same God that the philosopher does. Rather, he just has a less sophisticated understanding of that God.

"The reality of suffering and of other kinds of evil shows that God does not exist."

The appeal to the "problem of evil" is, of course, one of the classic objections to theism. Contemporary philosophers of religion commonly distinguish between two aspects of the problem. First, is the existence of suffering and other kinds of evil logically consistent with the existence of God? Second, if it is consistent, what is the reason why God allows suffering and other kinds of evil to exist? To justify an affirmative answer to the first question is to give a *defense* of theism against the atheistic objection from evil. To answer the second question is to put forward a *theodicy*.[50] The two issues are obviously related, but still distinct. One could argue that the existence of evil is compatible with God's existence without claiming to be able to explain exactly why God allows the evils that actually exist.

Since providing a defense is sufficient to rebut the present objection whether or not one goes on to develop a theodicy, that is the aspect of the issue I will focus on here. And it is not difficult to give such a defense. More ambitious versions of the atheistic argument from evil allege that the existence of evil is strictly inconsistent with the existence of God. For example, J. L. Mackie once argued as follows: God is supposed to be omnipotent and perfectly good. But there are no limits to what an omnipotent thing can do, and a good thing will eliminate evil as far as it can. So, if God exists, then he would be able to eliminate all evil and would want to do so. But evil exists. So, either God is not really omnipotent or not perfectly good, or he does not exist at all.[51]

Now, what I said about omnipotence and perfect goodness in chapter 6 should make it clear what is wrong with this argument. The problem is with Mackie's second premise. First of all, it is not true to say *without qualification* that there are no limits to what an omnipotent thing can do. Even God cannot make a round square, or cause two and two to equal five. Making self-contradictory statements true

[50] Contrasting a "theodicy" in this narrow sense with a "defense" has become common in contemporary philosophy of religion. Older Thomistic works use the term "theodicy" in a broader sense, as a synonym for "natural theology" in general rather than merely a treatment of the problem of evil specifically.

[51] J. L. Mackie, "Evil and Omnipotence", *Mind* 64 (1955): 200–12, reprinted in *The Problem of Evil*, ed. Marilyn McCord Adams and Robert Merrihew Adams (Oxford: Oxford University Press, 1990), pp. 25–37.

is not the sort of thing which it makes sense to talk about doing; hence, even God cannot do them. Now, if it turns out that there are some goods which logically cannot be had without tolerating certain evils, then even God could not create those goods without tolerating the evils in question, any more than he could make a round square. And that brings us to the second problem with Mackie's second premise. It is not true to say that a good thing will eliminate all evil as far as it can. For to get rid of some evils may entail also getting rid of the goods that presuppose those evils. Hence, even if a good thing could get rid of those evils, it might refrain from doing so so as to ensure that the goods in question are preserved. The basic idea is familiar from everyday life. If a child finds it extremely unpleasant to do his homework, a parent could easily remedy this unpleasantness by telling the child that he needn't bother doing it. But a good parent will not do so, because to eliminate the unpleasantness of doing homework would also be to prevent the child from learning and to lead him to disobey the reasonable instructions of his teacher. And it is good for a child to learn and to obey his teacher's reasonable instructions.

What sorts of goods would be eliminated if God were to get rid of all evil? The main examples are familiar from the literature on the problem of evil. For instance, it is good for there to be creatures which act of their own free will rather than being mere automata. But creatures with free will might abuse it and carry out evil actions. So, to eliminate the possibility of such evil actions, God would have to eliminate free will as well. Now, Mackie considers this example and has a response to it. While it is possible for a creature with free will to choose to do evil, it is of course also possible for such a creature to choose *not* to do evil. Indeed, it is possible in principle for a free creature *never* to choose to do evil, but always freely to choose to do only what is good. So, Mackie says, to say that God could create a world without evil in it only by creating a world without free will is to assume a false alternative. There is another possibility he could have chosen—namely, to create a world in which there are creatures with free will but where they only ever freely choose to do good and never choose evil. And if God is perfectly good, Mackie says, then that is the sort of world he should have created.

Now, some theists have claimed that Mackie is wrong to assume that God could have created a world with free creatures who never

choose evil. They claim that it is possible that in any world with free creatures that God could have created, at least some of them would sometimes go wrong.[52] But the theist need not take this route. We can agree with Mackie that God could have created a world with free will and no evil. We can even agree that in such a world there would be many morally significant choices made, such as the choice not to murder or steal from others. That is to say, a world in which free creatures never choose to do evil need not be a world where only morally trivial choices are freely made (e.g., choices about what to eat for dinner, where to buy a house, etc.). It doesn't follow from that, though, that God could have created a world with free will, no evil, *and all* the moral good that actually exists in the world. For there are still certain *kinds* of exercise of free will that presuppose the existence of people who choose evil. For example, acts of forgiveness and mercy are not possible unless there are people who actually do evil things for which they can be forgiven, and therefore deserve punishments which we might mercifully refrain from inflicting. For people freely to choose to act in a forgiving or merciful way, then, is possible only in a world in which other people have actually chosen to do evil. Then there are moral virtues which do not presuppose that some people choose to carry out evil actions, but which still presuppose that there exists evil of other sorts. For example, you cannot have courage unless there is danger in the face of which you are tempted to avoid doing your duty, but choose to do it anyway. You cannot show compassion unless there are people who have suffered misfortunes of some sort (whether it be illness, the death of a loved one, unemployment, or whatever) and toward whom you can act compassionately. You cannot choose to sacrifice something for the sake of either your own moral improvement or the good of another person without thereby losing the good thing that you are sacrificing. And so forth.[53]

So, it is not merely the goodness of free will in the abstract which we need to take into consideration. It is not even merely morally

[52] Alvin Plantinga is the best-known advocate of this position. See Plantinga's *The Nature of Necessary* (Oxford: Oxford University Press, 1974) and *God, Freedom, and Evil* (Grand Rapids, Mich.: Eerdmans, 1977).

[53] John Hick famously emphasizes what he calls the "soul-making" function of having to deal with suffering and other kinds of evil in *Evil and the God of Love*, rev. ed. (San Francisco: Harper and Row, 1977).

significant free choices that we need to consider. We also need to consider morally significant choices *of the sort* which manifest or contribute to the development of virtues like forgiveness, mercy, courage, compassion, and so on. And even though some free actions, and even some morally significant free actions, could exist in a world in which there is no evil, the latter sorts of free actions could not.[54]

So, Mackie's argument fails. Indeed, Mackie in later years conceded that "the problem of evil does not, after all, show that the central doctrines of theism are logically inconsistent with one another" and that "we cannot, indeed, take the problem of evil as a conclusive disproof of traditional theism."[55] Still, the later Mackie claimed that not *all* the evil that exists could be accounted for in the manner suggested. Other atheists too have suggested that, even if the existence of evil does not strictly *disprove* theism, it still makes it *probable* that there is no God. This position has come to be known as the "evidential argument from evil", and an influential version of it is presented by William Rowe.[56] Rowe argues that an omnipotent, omniscient, and wholly good being would prevent any suffering that could be prevented without losing a greater good or bringing about some equally bad or worse evil. But it is probable, claims Rowe, that at least *some* of the suffering that actually exists in the world *could* have been prevented without losing a greater good or bringing about some equally bad or worse evil. Therefore, he concludes, it is probable that there is no omnipotent, omniscient, and wholly good being.

By way of example, Rowe asks us to imagine a case where "in some distant forest lightning strikes a dead tree, resulting in a forest fire ... [in which] a fawn is trapped, horribly burned, and lies in terrible agony for several days before death relieves its suffering."[57]

[54] This is *not* to say, with Leibniz, that the actual world is the best of all possible worlds or that God had to create the best of all possible worlds. God could have refrained from creating this or any other world, and could have created a world that is better in various respects than the actual world. The point is just that, given that he has created this world, he allows the evils in it to exist because he draws out of them certain goods that would not have been possible without them (even if other goods, and other worlds that are better in certain respects, would still have been possible without them).

[55] Mackie, *Miracle of Theism*, pp. 154, 176.

[56] William Rowe, "The Problem of Evil and Some Varieties of Atheism", *American Philosophical Quarterly* 16 (1979): 335–41, reprinted in Adams and Adams, *Problem of Evil*, pp. 126–37. Subsequent page references are to the reprint.

[57] Ibid., pp. 129–30.

The idea is that, even if an omnipotent, omniscient, and perfectly good God allows human beings to suffer so that they might develop virtues like courage, compassion, mercy, and the like, suffering like that of the fawn seems clearly pointless, unredeemed by any greater good drawn out of it. To be sure, Rowe concedes that "we are not in a position to *prove*" that there is no greater good drawn out of such examples of suffering and "cannot know with *certainty*" that there is not.[58] There *could* in principle be such a greater good that we simply don't know about. But he thinks it is rational to believe that there is not, and thus rational to believe that there is no God.

The problem with Rowe's argument is that it can be rational to believe this *only if we don't already* have independent reason to think that God exists, and thus independent reason to think that there must be some greater good that God will draw out of instances of suffering like the one cited by Rowe. And we *do* have such independent reasons. For as we have seen in this book, there are at least five ways of demonstrating that God exists, and further arguments showing that he is omnipotent, omniscient, and perfectly good. Hence, we know, on the basis of these very arguments, that there must in fact be some greater good that God will draw out of instances of suffering like the ones Rowe has in mind, whether or not we can know what that greater good is. Now, by Rowe's own admission, there *could* in principle be such a greater good, and thus he would have to admit also that if we really do have independent arguments which show that there is an omnipotent, omniscient, and perfectly good God, then we have independent reason to think that there *is in fact* such a greater good. And in that case his "evidential argument from evil" fails. Certainly it is no challenge at all to the arguments defended in this book. For the "evidential argument" to succeed as a challenge to those arguments, its defenders would first have to provide an *independent* refutation of the arguments of this book. And if they could do that, they wouldn't need the "evidential argument" in the first place.

It is worth adding that it is not just that we *happen* not to know, of every instance of evil that exists, what the reasons are why God allows it. That we don't know is *precisely what we should expect*, though some of the grounds for this judgment require argumentation that

[58] Ibid., p. 130 (emphasis added).

would take us well beyond the scope of this book. In particular, they require a defense of the claim that we have immortal souls, so that the sufferings of this life can be balanced out by greater goods to be enjoyed in the hereafter.[59] Suppose there is such an afterlife. Then the evils that exist in this life could be unredeemable only if there could not be in the afterlife a good great enough to outweigh the evils of this life. But it would be quite absurd to claim that there could not be such an outweighing good. For one thing, this afterlife would be *endless*, given the immortality of the soul, whereas even the worst sufferings of this life do not last. For another thing, we are no more in a position to understand what the afterlife is like than a small child is in a position to understand what adulthood is like. And of course, children often cannot understand what good could possibly come from certain things they find unpleasant—doing their homework, eating their spinach, doing chores, being punished for misbehavior, and so forth—until they are older. Once they reach adulthood, they understand matters they could not have understood while still children, including the reasons why it was worthwhile for them to have undergone these unpleasant things. Now, God is, needless to say, infinitely more knowledgeable and powerful than any parent, and an afterlife would be vastly more unlike the present life than adulthood is unlike childhood. Hence, if there is an afterlife, we should expect both that God will be able in that afterlife to produce a good that will outweigh all the evils of this life, but also that we will not yet be able in our current circumstances completely to understand how he will do so.

Fully to develop and defend such an idea would be to provide a *theodicy*, and again, that is beyond the scope of this book. And it is unnecessary for the present purpose, which is merely to provide a *defense* of theism against the objection from evil. What matters for that purpose is that an afterlife with outweighing goods is at least *possible*, for that suffices to reinforce the point that there is no

[59] For exposition and defense of Aquinas' argument for the immortality of the soul, see Edward Feser, *Aquinas* (Oxford: Oneworld Publications, 2009), chap. 4. For detailed defense of the thesis that the human intellect is incorporeal, which plays a crucial part in Aquinas' argument for immortality, see my essay "Kripke, Ross, and the Immaterial Aspects of Thought", *American Catholic Philosophical Quarterly* 87 (2013): 1–32, reprinted in *Neo-Scholastic Essays*, pp. 217–53.

inconsistency between the existence of God and the existence of suffering and other kinds of evil.

I have dealt with other aspects of the problem of evil, such as the analysis of evil as a privation and the question whether God must create the best possible world, in earlier chapters, especially chapter 6.

"If God really existed, then he would not be 'hidden' from us, but his existence would be obvious to everyone."

This objection, which has gained some popularity in recent years, is sometimes called the argument from "divine hiddenness".[60] It rests on two crucial assumptions: first, that if God really existed, then his existence would be obvious to most people; and second, that his existence is not in fact obvious to most people. But why should we accept either of these assumptions?

Let's consider them in order. J. L. Schellenberg, a prominent proponent of this objection, grounds the first assumption in the idea that if God existed, then he would intend between himself and human beings "a personal and positively meaningful and explicit relationship of the sort that logically presupposes each party's belief in the other's existence".[61] The claim is that since God would intend such a relationship with us, he would make sure that everyone knew he exists. Since (the objection claims) he has not done so, he must not exist at all. But why suppose that God *would* intend such a relationship? Not all theists have supposed that. For example, Aristotle famously thought that the divine Unmoved Mover of the world contemplated himself eternally, but took no cognizance of us. So, Schellenberg's argument is just a nonstarter against a theistic view of that sort.

Of course, many theists, such as Jews and Christians, *do* think that God intends a personal relationship with human beings—and correctly so, in my view. The point, though, is that Schellenberg's objection fails even prima facie as a completely general argument for atheism. It has no force against versions of theism which are happy to allow that God is or might be uninterested in human beings.

[60] J. L. Schellenberg, *Divine Hiddenness and Human Reason*, with a New Preface (Ithaca, N.Y.: Cornell University Press, 2006).

[61] Ibid., p. viii.

Moreover, it has no force even against much of what is claimed by theists who do think that God intends a personal relationship with human beings. Consider that the arguments defended in this book purport to show that there is an uncaused cause of the world who is one, simple or noncomposite, purely actual, immutable, immaterial, eternal, omnipotent, omniscient, and so forth. Those attributes are, of course, all part of the traditional theistic package for Jews and Christians no less than for purely philosophical theists. How does Schellenberg's argument in any way cast doubt on those particular claims? Yet if those claims are true, then that suffices to show that theism (of a sort) is true and atheism is false.

Of course, I have also argued that God is perfectly good and that he loves his creation, and Schellenberg might claim that his argument casts doubt on at least *those* aspects of the position defended in this book. However, it does not in fact do so, any more than the problem of evil casts doubt on it. For as with the problem of evil, the correct thing to say is that since the arguments of this book establish that there is a God who is perfectly good and loves his creation (and also has the other attributes mentioned), it follows that to the extent that he has not made his existence more obvious, there must be some greater good he is drawing out of this circumstance. Schellenberg would have to suppose that there *could not possibly* be such a greater good, but there is no better reason to suppose that than there is reason to suppose that there *could not possibly* be a greater good that God draws out of the suffering of the fawn and similar examples (a supposition which, as we saw, even Rowe doesn't make).

What reason might God have for not making his existence more obvious? John Hick proposes that God created us at an "epistemic distance" from him precisely so that we would be free to choose whether or not to enter into a personal relationship with him.[62] Now, I think that Hick massively overstates the extent of this "epistemic distance". He thinks the universe is "religiously ambiguous" in that it could with equal plausibility be interpreted in either a theistic or atheistic way.[63] By contrast, and as is evident from this book, I think there

[62] Hick, *Evil and the God of Love*, p. 281.

[63] See esp. John Hick, *An Interpretation of Religion* (New Haven, Conn.: Yale University Press, 1989).

are decisive arguments for the existence of God. I also think Hick overstates the extent to which the free choice concerning whether or not to enter into a personal relationship with God depends on doubt about whether he really exists. The history of ancient Israel, of the Church, and of Islam and other religions is rife with theistic believers who have done all kinds of evil things, and they didn't do these things because they decided that atheism might be true after all.

But there is arguably a kernel of truth in Hick's position. Just as God allows us a very long leash with respect to errors in what we *do*—even to the extent of moral breakdown at the level of entire societies, genocide and other atrocities, and so forth—so too does he allow us a very long leash with respect to errors in what we *think*. As the cliché has it, there is nothing so absurd but that some philosopher has said it. The human mind is capable of coming up with, and getting itself to believe, all sorts of bizarre things. Philosophers and other intellectuals have denied the existence of change, time, the material world, causality, free will, and the self. Some have even denied the existence of consciousness and of beliefs, desires, and meaningful thoughts in general. It is hardly surprising that some people have also denied the existence of God. Because our minds are finite, they are capable of error, and because we have free will, we are capable of turning our attention away from evidence and lines of argument which point in the direction of God's existence and focusing it instead on evidence and lines of argument that seem to point away from it. And people can have various motives for wanting to do so (about which I'll say more in a moment). To the extent that there is "epistemic distance" between us and God, that is an inevitable result of the fact that we have finite minds and free will.

But in fact this "epistemic distance" is not great, which brings us to the second assumption behind the "divine hiddenness" objection—namely, that God's existence is not obvious to most people. It is true that relatively few people have endorsed or even been familiar with philosophical theism of the sort defended in this book. But it hardly follows from that that most people are atheists or even doubtful about God's existence. On the contrary, historically speaking, the vast majority of human beings have been theists of some sort, and most human beings today are theists of some sort. It is true that people have often disagreed over the details, with some people endorsing

a theism on which God is distinct from the world, others endorsing some kind of pantheism, yet others believing some form of polytheism, and yet others having a more inchoate conception of the divine. But that there is some divine reality is something most people have not only affirmed, but affirmed with some confidence, despite their not having fancy philosophical arguments for their belief. Indeed, atheists often complain of the confidence ordinary people have in their religious beliefs despite their not having fancy arguments for it. Evidently, if God is "hidden" from most people, most people seem to be unaware of the fact.

Of course, the atheist might respond that the trouble is that the average person's reasons for religious belief are (so the atheist thinks) weak, and if they realized how weak these reasons are, then they would see that God really is hidden from them. But this is like saying that the fact that the average person's understanding of modern science and the evidence in its favor is often weak (think again of the layman who thinks that atoms are literally little balls connected by sticks) shows that scientific truths are all "hidden" from the average person. And that is clearly not the case. Many nonexperts really do have some knowledge of science even if their degree of understanding of it is much lower than that of the expert, and even if what they know is mixed in with errors. And as I suggested above, the same thing is true of the average religious believer. His reasons for regarding God as the cause of the world (for example) may not be sophisticated and may be mixed in with various errors, but his belief is nevertheless correct and often reflects at least a greatly oversimplified approximation of the arguments of natural theology.

And indeed, most of the experts on *this* subject—philosophers, scientists, and theologians—have, historically, not only believed that there is a divine cause of the world, but held that this can be known via philosophical arguments. This is true in Western thought from the beginning until fairly recently, with the list including Xenophanes, Anaximander, Plato, Aristotle, Plotinus, Augustine, Maimonides, Anselm, Avicenna, Averroes, Al-Ghazali, Aquinas, Scotus, Descartes, Leibniz, Newton, Boyle, Locke, Berkeley, Clarke, Paley, and many others. As the list of recent defenders of the cosmological argument given earlier in this chapter indicates, there are still many philosophers who think this. Of course, the atheist might retort that

this is now a minority view and that the arguments for theism that earlier generations of philosophers endorsed have been shown to be no good. But this would be to beg the question, because as I have tried to show in this book, the arguments associated with the Aristotelian, Neo-Platonic, Augustinian, Thomistic, and rationalist traditions have *not* been refuted.

Moreover, we have also seen that many of the objections routinely flung at the arguments of natural theology, and on the basis of which many contemporary intellectuals suppose that the arguments have been decisively refuted—objections like "If everything has a cause, then what caused God?"—are *demonstrably incompetent.* Now, if most contemporary intellectuals who reject theism do so on the basis of such clueless objections, then they hardly have any right to accuse ordinary religious believers of believing what they do on the basis of inadequate evidence. That many of such intellectuals regard it as obvious that God is "hidden" says less about natural theology than it does about their understanding of natural theology.

"Arguments for God's existence are just rationalizations of preordained conclusions, and thus need not be taken seriously."

One problem with this objection is that it is a textbook example of an ad hominem fallacy of "poisoning the well"—rejecting an argument merely because of some alleged vested interest or suspect motive on the part of the person giving it. In fact, as all logicians know, whether an argument is good or bad is completely independent of the motivation or character of the person giving it.

Another problem is that this accusation can be flung with no less justice at some *critics* of arguments for God's existence. For just as a person can, of course, want to believe in God and therefore be inclined to look for reasons for this belief and to avoid examining the arguments for atheism too carefully, so too can a person have a bias in the opposite direction. That is to say, a person might want *not* to believe in God, and will therefore be inclined to look for reasons to justify atheism and to avoid examining too carefully the arguments for theism. Philosopher Thomas Nagel once acknowledged that a "fear of religion" seems to influence the work of many of his fellow secularist intellectuals. He writes:

> I speak from experience, being strongly subject to this fear myself: I want atheism to be true and am made uneasy by the fact that some of the most intelligent and well-informed people I know are religious believers. It isn't just that I don't believe in God and, naturally, hope that I'm right in my belief. It's that I hope there is no God! I don't want there to be a God; I don't want the universe to be like that. My guess is that this cosmic authority problem is not a rare condition and that it is responsible for much of the scientism and reductionism of our time.[64]

That is not to say that all atheists are intellectually dishonest. But neither are all theists intellectually dishonest. In any event, and again, whether either side is intellectually honest or not really doesn't matter for present purposes. What matters is whether the arguments either side gives are good arguments, and that is something which can be determined only by actually examining the arguments, not by wasting time looking for excuses not to do so.

"No one can claim to have a proof or demonstration that God exists, since so many people doubt or deny his existence even after hearing the alleged proofs."

One problem with this objection is that, as we have seen, many of the criticisms commonly raised against arguments of the sort defended in this book are woefully incompetent, directed at crude caricatures and reflecting ignorance of what defenders of the arguments actually said. That many patently ill-informed people reject an alleged demonstration hardly gives us a good reason to think it fails as a demonstration.

A second problem is that those who dismiss the very idea that the existence of God might be demonstrable typically hold arguments for God's existence to a standard to which they do not hold other arguments. For instance, the mere fact that someone somewhere has raised an objection against an argument for God's existence is commonly treated by skeptics as showing that "the argument fails"—as if an argument is a good one only if *no one* objects to it but all assent to it upon hearing it. Of course, skeptics do not treat other philosophical arguments this way. For example, that an argument for materialism

[64] Thomas Nagel, *The Last Word* (Oxford: Oxford University Press, 1997), pp. 130–31.

or against free will has its critics is not taken to show that *those* arguments simply "fail". The attitude in these cases is rather: "Yes, like any philosophical argument, this one has its critics, but that doesn't mean the critics are right. At the end of the day, the objections might be answerable and the argument ultimately correct, and we need to keep an open mind about it and consider what might be said in its defense." In general, even the most eccentric philosophical arguments are treated as if they are always "on the table" as options worthy of reconsideration. Mysteriously, though, arguments for God's existence are refused this courtesy. The mere fact that Hume (say) said such-and-such two centuries ago is often treated as if it constituted a once-and-for-all decisive refutation.[65]

A third problem with the objection is that those who raise it often misunderstand what classical theists like Aquinas mean when they say that God's existence can be "demonstrated". What is meant is that the conclusion that God exists follows with necessity or deductive validity from premises that are certain, where the certainty of the premises can in turn be shown via metaphysical analysis. That entails that such a demonstration gives us knowledge that is more secure than what any scientific inference can give us (as "science" is generally understood today), in two respects. First, the inference is not a merely probabilistic one, nor an "argument to the best explanation" which appeals to considerations like parsimony, fit with existing background theory, and so forth, but where some alternative explanation might in principle be correct. Again, it is instead an attempt at a strict deduction to what follows *necessarily* from the premises. Second, the premises cannot be overthrown by further empirical inquiry, because they have to do with what any possible empirical inquiry must presuppose.

[65] Hilary Putnam noted the double standard too many contemporary secular analytic philosophers bring to bear when evaluating arguments for God's existence: "The majority of these philosophers take it to be quite clear what a 'proof' is: a demonstration that something is the case using the standards (or supposed standards) of, if not science, then, let us say, analytic philosophy. In addition, it is supposed that a sound proof ought to be able to convince any rational person who sees it. (Why the arguments of analytic philosophers themselves—not even the philosophical, as opposed to technical logical, arguments of Frege, or Russell, or Quine, or Davidson, or David Lewis—all fail to meet this test is not something that analytical philosophers discuss a great deal.)" Hilary Putnam, "Thoughts Addressed to an Analytical Thomist", *Monist* 80 (1997): 487–88.

For example, the Aristotelian proof begins with the premise that change occurs, together with premises to the effect that a potential can be actualized only by what is already actual (the principle of causality) and that a hierarchically ordered series of causes cannot regress to infinity. The first premise is in a sense empirical, which is why the argument is not a priori. We know that change occurs because we experience it. However, it is not a premise which can be overthrown by further empirical inquiry, because any possible future experience will itself be a further instance of change. (We can coherently hold, on empirical grounds, that this or that *purported instance* of change is unreal; but we *cannot* coherently maintain on empirical grounds that *all* change is unreal.) The other premises can be defended by various metaphysical arguments, such as arguments to the effect that the principle of causality follows from the principle of sufficient reason (PSR), and that PSR rightly understood can be established via *reductio ad absurdum* of any attempt to deny it. We have seen in this book how such a defense would go, and how there are at least four other demonstrations (the Neo-Platonic proof, the Augustinian proof, the Thomistic proof, and the rationalist proof) which can be defended in similar ways.

Now, arguments of this sort are certainly ambitious, but there is nothing in the strategy they embody that entails that every reader ought immediately to see the force of the argument and assent to it, or that significant philosophical work won't have to be done in order to defend the key premises. It does not entail that even fair-minded and well-informed readers will automatically see the force of such arguments and agree with them. Hence, the fact that an argument is controversial does not entail that it fails as a demonstration.

What is needed is merely that when all is said and done, the argument can successfully be defended against all objections claiming to show that the conclusion does not really follow or that the premises are doubtful. Now, that has been accomplished in this book with respect to the proofs just mentioned, from all of which it follows that God exists. *Quod erat demonstrandum.*

FURTHER READING

What follows are some suggestions for further reading for those who want to investigate in greater depth the arguments defended in this book. There are, in addition to these arguments, other sound arguments for God's existence, and I also make some recommendations for readers who want to investigate those arguments.

The Aristotelian proof

Aristotle's classic statements of the argument from motion or change to an Unmoved Mover can be found in book 8 of his *Physics* and book 12 of his *Metaphysics*. The argument has been reformulated in various ways by many Aristotelian philosophers over the centuries. For example, Maimonides presents versions of it in *The Guide of the Perplexed*, book 2, chapter 1. Thomas Aquinas presents a version of it as the first of his famous Five Ways in the *Summa Theologiae*, part I, question 2, article 3. Aquinas develops the argument at greatest length, however, in book 1, chapter 13, of *Summa Contra Gentiles*. All of these works can be found in various translations, both in print and online.

One contemporary statement and defense of the Aristotelian proof can be found in chapters 2 and 3 of David Conway, *The Rediscovery of Wisdom: From Here to Antiquity in Quest of* Sophia (London: Macmillan, 2000). Defenses of Aquinas' version can be found in David S. Oderberg, " 'Whatever Is Changing Is Being Changed by Something Else': A Reappraisal of Premise One of the First Way", in *Mind, Method and Morality: Essays in Honour of Anthony Kenny*, ed. J. Cottingham and P. Hacker (Oxford: Oxford University Press, 2010), pp. 140–64; and Michael Augros, "Ten Objections to the *Prima Via*", *Peripatetikos* 6 (2007): 59–101. As these two references indicate, most contemporary defenses of the Aristotelian argument occur in the

context of discussions of Aquinas' Five Ways, so the interested reader is directed to the contemporary works on the Five Ways that I refer to below.

The Neo-Platonic proof

The basic idea of the Neo-Platonic proof is given expression in the fifth of Plotinus' *Enneads*, fourth tractate. Various translations of the *Enneads* are available, both in print and online. Detailed exposition of Plotinus' argument can be found in chapter 1 of Lloyd P. Gerson, *Plotinus* (London: Routledge, 1994).

Aquinas does not present an argument exactly like the one I defend in chapter 2. However, he puts such emphasis on the idea that God qua the ultimate cause of things must be simple or noncomposite that an argument like the one I present is, I think, implicit in his work. See *Summa Contra Gentiles*, book 1, chapter 18, and *Summa Theologiae*, part I, question 3.

An important argument that is different from Plotinus', Aquinas', and mine but bears a family resemblance to them has been defended by William F. Vallicella. See "From Facts to God: An Onto-Cosmological Argument", *International Journal for Philosophy of Religion* 48 (2000): 157–81; and *A Paradigm Theory of Existence: Onto-Theology Vindicated* (Dordrecht: Kluwer Academic Publishers, 2002), especially chapter 8.

The Augustinian proof

Augustine presents a version of the argument from eternal truths in book 2 of *On Free Choice of the Will*, which is available in several translations. Leibniz presents a version of the argument in sections 43–46 of the *Monadology*, also available in several translations. A useful critical exposition of Leibniz's version can be found in chapter 7 of Robert Merrihew Adams, *Leibniz: Determinist, Theist, Idealist* (Oxford: Oxford University Press, 1994).

For two recent defenses of arguments of the broadly Augustinian type, see David S. Oderberg, *Real Essentialism* (London: Routledge,

2007), pp. 125–30; and Greg Welty, "Theistic Conceptual Realism", in *Beyond the Control of God? Six Views on the Problem of God and Abstract Objects*, ed. Paul M. Gould (London: Bloomsbury, 2014), pp. 81–96.

The Thomistic proof

Aquinas' presentation of this argument can be found in chapter 4 of *On Being and Essence*, which is available in several translations. A book-length exposition and defense of Aquinas' argument can be found in Gaven Kerr, *Aquinas's Way to God: The Proof in* De Ente et Essentia (Oxford: Oxford University Press, 2015).

An argument similar to Aquinas' is defended in chapter 2 of Brian Davies, *The Reality of God and the Problem of Evil* (London: Continuum, 2006). More different from Aquinas' argument but still in the same ballpark is the argument developed by Barry Miller in *From Existence to God: A Contemporary Philosophical Argument* (London: Routledge, 1992). A useful exposition and critical discussion of Miller's argument can be found in Elmar J. Kremer, *Analysis of Existing: Barry Miller's Approach to God* (New York: Bloomsbury, 2014).

An argument that is also in some respects similar to the Thomistic proof (though in other respects similar to the Neo-Platonic proof, and in yet others to the third of Aquinas' Five Ways) is developed in David Braine, *The Reality of Time and the Existence of God: The Project of Proving God's Existence* (Oxford: Clarendon Press, 1988).

The Rationalist proof

Leibniz presents versions of the rationalist cosmological argument in *The Ultimate Origination of Things*, and in sections 36–39 of the *Monadology*. Samuel Clarke presents a version of it in *A Demonstration of the Being and Attributes of God*. These are all available in various editions.

A useful recent exposition and defense can be found in Alexander R. Pruss, "The Leibnizian Cosmological Argument", in *The Blackwell Companion to Natural Theology*, ed. William Lane Craig and J. P.

Moreland (Oxford: Blackwell, 2009), pp. 24–100. Further important defenses can be found in Bruce R. Reichenbach, *The Cosmological Argument: A Reassessment* (Springfield, Ill.: Charles Thomas, 1972), and in chapter 11 of Richard Taylor, *Metaphysics*, 4th ed. (Englewood Cliffs, N.J.: Prentice-Hall, 1992).

Aquinas' Five Ways

Aquinas' famous Five Ways can be found in *Summa Theologiae*, part I, question 2, article 3. The First Way is also known as the argument from motion or change to the existence of an Unmoved Mover, and the Aristotelian proof defended in this book is essentially a variation on it. The Second Way is also known as the argument from efficient causality to the existence of an uncaused cause. The Third Way is also known as the argument from the contingency of the world to the existence of an absolutely necessary being. (Insofar as it argues for the existence of a necessary being it is like the rationalist proof, but in other respects it is very different.) The Fourth Way is also known as the argument from degrees of perfection to the existence of a Most Perfect Being. The Fifth Way is also known as the argument from final causality to the existence of a Supreme Intelligence.

Though I have not defended all of these arguments in this book, I do in fact think that each of the Five Ways is a sound argument for God's existence. I defend them in chapter 3 of my book *Aquinas* (Oxford: Oneworld Publications, 2009), and in my essay "Existential Inertia and the Five Ways", which first appeared in *American Catholic Philosophical Quarterly* 85, no. 2 (2011): 237–67, and is reprinted in my book *Neo-Scholastic Essays* (South Bend, Ind.: St. Augustine's Press, 2015), pp. 84–117. I address a specific science-based objection to the First Way at length in my article "Motion in Aristotle, Newton, and Einstein", which first appeared in *Aristotle on Method and Metaphysics*, ed. Edward Feser (Basingstoke: Palgrave Macmillan, 2013), pp. 236–58, and is also reprinted in *Neo-Scholastic Essays*, pp. 3–27. I defend the Fifth Way at length in my essay "Between Aristotle and William Paley: Aquinas's Fifth Way", which first appeared in *Nova et Vetera* 11, no. 3 (2013): 707–49, and is also reprinted in *Neo-Scholastic Essays*, 147–92.

Important in-depth studies of each of Aquinas' Five Ways can also be found in Dennis Bonnette, *Aquinas's Proofs for God's Existence* (The Hague: Martinus Nijhoff, 1972); Christopher F.J. Martin, *Thomas Aquinas: God and Explanations* (Edinburgh: Edinburgh University Press, 1997); and chapter 12 of John F. Wippel, *The Metaphysical Thought of Thomas Aquinas* (Washington, D.C.: Catholic University of America Press, 2000). The first three Ways are defended by John Haldane in J.J.C. Smart and J.J. Haldane, *Atheism and Theism*, 2nd ed. (Oxford: Blackwell, 2003).

Many older manuals of Thomistic natural theology contain very useful material on the Five Ways and related arguments. Some examples are James F. Anderson, *Natural Theology: The Metaphysics of God* (Milwaukee: Bruce Publishing, 1962); Celestine N. Bittle, *God and His Creatures* (Milwaukee: Bruce Publishing, 1953); Bernard Boedder, *Natural Theology* (New York: Benziger Brothers, 1891); Reginald Garrigou-Lagrange, *God: His Existence and His Nature*, vol. 1 (St. Louis: B. Herder, 1939); Maurice Holloway, *An Introduction to Natural Theology* (New York: Appleton-Century-Crofts, 1959); G.H. Joyce, *Principles of Natural Theology*, 2nd ed. (London: Longmans, Green, 1924); John F. McCormick, *Scholastic Metaphysics, Part II: Natural Theology* (Chicago: Loyola University Press, 1943); Henri Renard, *The Philosophy of God* (Milwaukee: Bruce Publishing, 1951); and Gerard Smith, *Natural Theology* (New York: Macmillan, 1951). Many of these are available in reprint editions via online booksellers.

Other cosmological arguments

At least the first three of Aquinas' Five Ways, and (other than the Augustinian proof) the arguments defended in this book, might all be regarded as versions of the cosmological argument. There are yet other versions of the cosmological argument that are worthy of serious attention. An invaluable overview of the history and varieties of cosmological argument can be found in William Lane Craig, *The Cosmological Argument from Plato to Leibniz* (London: Macmillan, 1980).

Unlike the arguments defended in this book, and unlike Aquinas' Five Ways, the *kalām* cosmological argument is concerned to show

that the universe must have had a beginning in time and that God is the cause of that beginning. This argument was defended by medieval Islamic thinkers like Al-Ghazali and medieval Christian thinkers like Bonaventure. In recent decades its most prominent defender has been William Lane Craig. See Craig's *The Kalām Cosmological Argument* (London: Macmillan, 1979), and William Lane Craig and Quentin Smith, *Theism, Atheism, and Big Bang Cosmology* (Oxford: Oxford University Press, 1993). One Thomist philosopher who defends the *kalām* argument is David S. Oderberg. See his articles "Adolf Grünbaum and the Beginning of the Universe", *Philosophia Naturalis* 36 (1999): 187–94; "The Kalam Cosmological Argument Neither Bloodied nor Bowed: A Response to Graham Oppy", *Philosophia Christi* 3 (2001): 193–96; "Traversal of the Infinite, the 'Big Bang' and the Kalam Cosmological Argument", *Philosophia Christi* 4 (2002): 305–34; "The Tristram Shandy Paradox: A Reply to Graham Oppy", *Philosophia Christi* 4 (2002): 353–56; and "The Beginning of Existence", *International Philosophical Quarterly* 43 (2003): 145–57. See also Robert C. Koons, "A New Kalam Argument: Revenge of the Grim Reaper", *Noûs* 48 (2014): 256–67.

The medieval Islamic philosopher Avicenna defended a distinctive argument from contingency for the existence of a necessary being. A useful recent discussion can be found in Jon McGinnis, "The Ultimate Why Question: Avicenna on Why God Is Absolutely Necessary", in *The Ultimate Why Question: Why Is There Anything at All Rather than Nothing Whatsoever?*, ed. John F. Wippel (Washington, D.C.: Catholic University of America Press, 2011), pp. 65–83.

The two most prominent Scholastic thinkers after Aquinas' time to put forward cosmological arguments for God's existence are John Duns Scotus and Francisco Suárez, whose approaches differ in significant ways from Aquinas'. Scotus' argument can be found in Duns Scotus, *Philosophical Writings*, translated by Allan Wolter (Indianapolis: Hackett Publishing, 1987). For discussion of the argument, see Richard Cross, *Duns Scotus on God* (Aldershot: Ashgate, 2005). Suárez's argument can be found in Francisco Suárez, *The Metaphysical Demonstration of the Existence of God: Metaphysical Disputations 28–29*, translated and edited by John P. Doyle (South Bend, Ind.: St. Augustine's Press, 2004). For discussion of the argument, see Bernie Cantens, "Suárez's Cosmological Argument for the Existence

of God", in *Interpreting Suárez: Critical Essays*, ed. Daniel Schwartz (Cambridge: Cambridge University Press, 2012), pp. 89–114.

Versions of the cosmological argument have been put forward in recent philosophy in Richard M. Gale and Alexander R. Pruss, "A New Cosmological Argument", *Religious Studies* 35 (1999): 461–76; Robert C. Koons, "A New Look at the Cosmological Argument", *American Philosophical Quarterly* 34 (1997): 193–211; Timothy O'Connor, *Theism and Ultimate Explanation* (London: Wiley-Blackwell, 2008); Joshua Rasmussen, "A New Argument for a Necessary Being", *Australasian Journal of Philosophy* 89 (2010): 351–56; and Robert J. Spitzer, *New Proofs for the Existence of God* (Grand Rapids, Mich.: Eerdmans, 2010).

The divine attributes

Aquinas puts forward many detailed arguments deriving the various divine attributes in *Summa Theologiae*, part I, questions 3–26, and *Summa Contra Gentiles*, book 1, chapters 14–102. Other works of his are relevant as well, such as *De Potentia Dei*. Many of the Thomistic manuals of natural theology cited above also offer substantive treatments of the divine attributes, and in connection with the divine attributes we should add to the list Reginald Garrigou-Lagrange, *God: His Existence and His Nature*, volume 2 (St. Louis: B. Herder, 1939).

Useful recent studies of Aquinas' derivation of various of the divine attributes can be found in Michael Dodds, *The Unchanging God of Love: Thomas Aquinas and Contemporary Theology on Divine Immutability* (Washington, D.C.: Catholic University of America Press, 2008); Brian Davies, *The Thought of Thomas Aquinas* (Oxford: Clarendon Press, 1992), chapters 3–8; Norman Kretzmann, *The Metaphysics of Theism: Aquinas's Natural Theology in Summa Contra Gentiles I* (Oxford: Clarendon Press, 1997); Eleonore Stump, *Aquinas* (London: Routledge, 2003), chapters 2–5; and Peter Weigel, *Aquinas on Simplicity: An Investigation into the Foundations of His Philosophical Theology* (New York: Peter Lang, 2008).

Recent expositions and defenses of the doctrine of divine simplicity that are sympathetic with the Thomistic approach can be found in James E. Dolezal, *God without Parts: Divine Simplicity and*

the Metaphysics of God's Absoluteness (Eugene, Ore.: Pickwick Publications, 2011); Steven J. Duby, *Divine Simplicity: A Dogmatic Account* (London: Bloomsbury T&T Clark, 2016); and Barry Miller, *A Most Unlikely God: A Philosophical Enquiry into the Nature of God* (Notre Dame, Ind.: University of Notre Dame Press, 1996).

Important recent treatments of divine goodness and the problem of evil written from a Thomistic point of view are Brian Davies' books *The Reality of God and the Problem of Evil*, cited above, and *Thomas Aquinas on God and Evil* (Oxford: Oxford University Press, 2011); Herbert McCabe, *God and Evil in the Theology of St Thomas Aquinas* (London: Continuum, 2010); and Eleonore Stump, *Wandering in Darkness: Narrative and the Problem of Suffering* (Oxford: Oxford University Press, 2010).

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